# WM-10RV/40

# SERVICE MANUAL

**Refer to MDR-W30L Service Manual issued previously for information of headphones supplied with this set.**

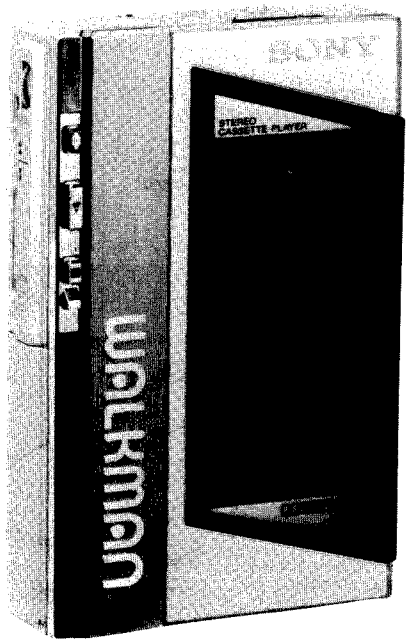
- *WM-10RV*

*US Model*
*Canadian Model*

- *WM-40*

*AEP Model*
*UK Model*
*E Model*

H4 4




## SPECIFICATIONS

| Tape Transport Mechanism Type | MT-WM40-27 |
|---|---|

Tape track: 4-track 2-channel stereo
Fast winding time: Approx. 2 min. 50 sec. with Sony cassette C-60
Frequency response (DOLBY NR OFF)
  40—15,000 Hz (with the TAPE selector set to $CrO_2$/METAL)
  40—15,000 Hz (with the TAPE selector set to NORM)
Power output: 4.5 mW + 4.5 mW (at 10% harmonic distortion)
  load impedance 18 ohms at dc operation
Power requirements: 1.5 V dc
  Size AA battery (IEC designation R6)
  DC IN 1.5 V jack accepts:
    Sony AC-D1 ac power adaptor (optional) for use on 120 V ac, 60 Hz
    Sony DCC-70 car battery cord (optional) for use with 12 V car battery
    Sony EBP-10 battery case (optional) for use on two size AA batteries (IEC designation R6)
Battery life (continuos playback hours):
  Approx. 2 hours with Sony SUM-3 (NS) New Super battery or Eveready No. 1215 Heavy Duty battery
  Approx. 4 hours with supplied Sony Eveready AM3 alkaline battery or Eveready No. E91 alkaline battery
  For maximum performance we recommend the use of alkaline battery.
Dimensions:
  With cassette inside
  Approx. 86.5 × 114.5 × 26 mm (w/h/d)
    ($3\frac{1}{2} \times 4\frac{5}{8} \times 1\frac{1}{16}$ inches)
  incl. projecting parts and controls
  without cassette inside
  Approx. 74.2 × 111.5 × 23.5 mm (w/h/d)
    ($3 \times 4\frac{1}{2} \times \frac{15}{16}$ inches)
  not incl. projecting parts and controls
Weight: Approx. 260 g (9.2 oz) incl. battery, not incl. other accessories

**'Dolby'** and the double-D symbol are the trade marks of Dolby Laboratories Licensing Corporation. Noise reduction system manufactured under license from Dolby Laboratories Licensing Corporation.

**0dB = 0.775V**

MICROFILM

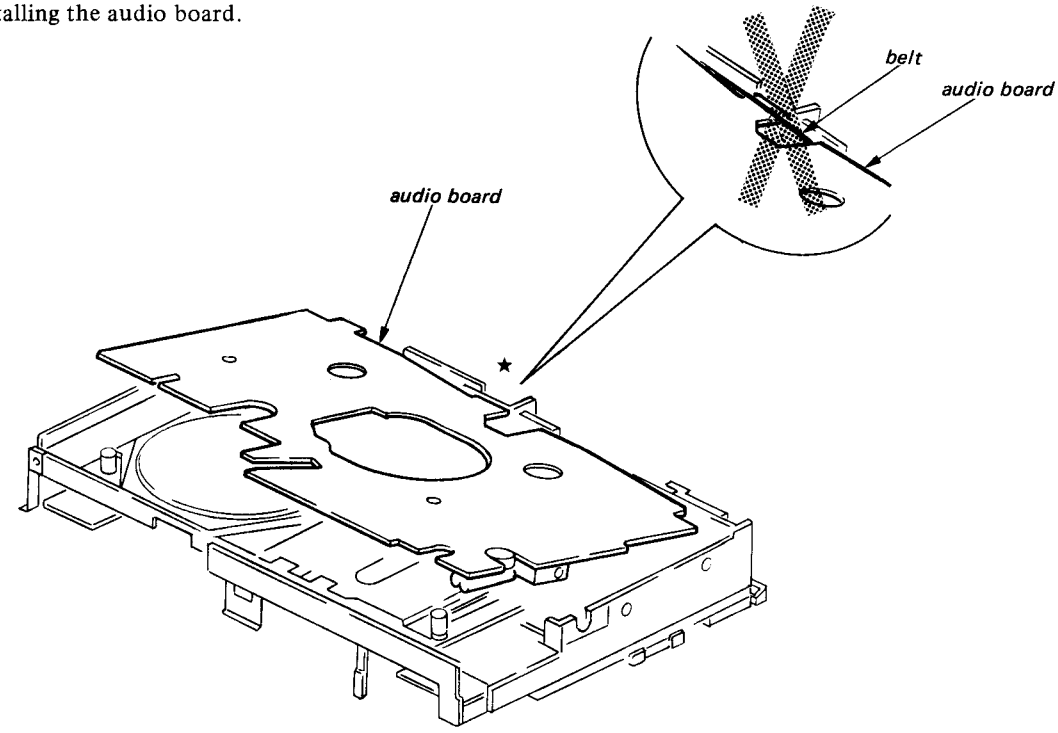
## STEREO CASSETTE-PLAYER

SONY®

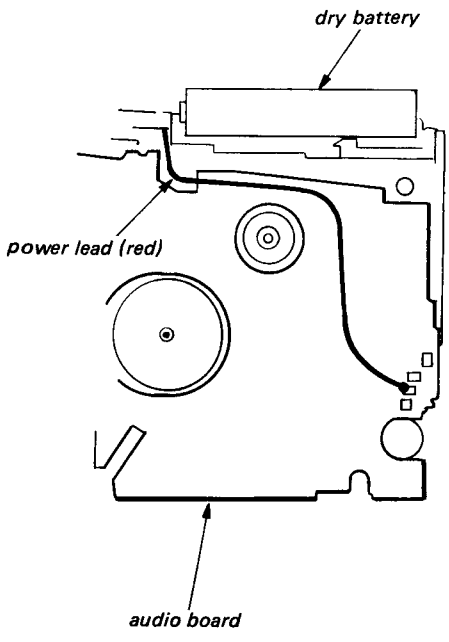
TC

## SERVICING NOTE

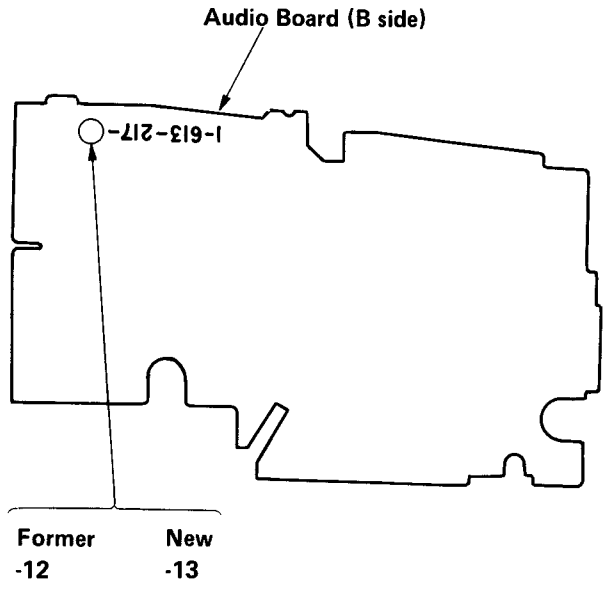
Take care not to hook belt at ★ marked portion when removing or installing the audio board.



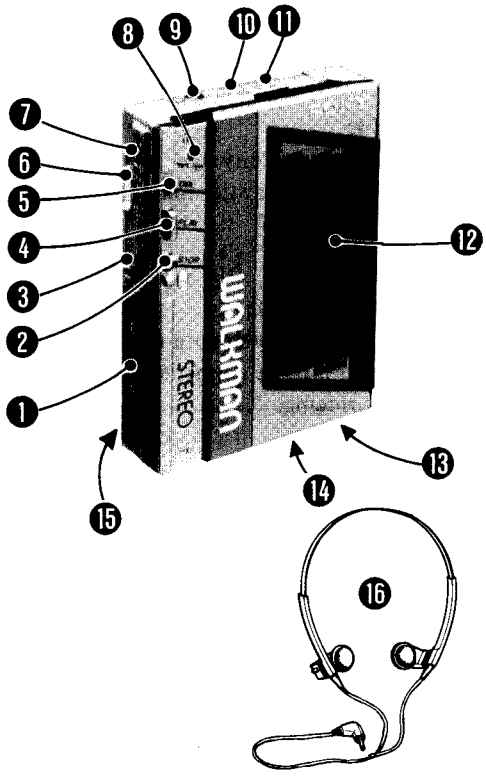

When wiring the lead wire (RED) from plus terminal of dry battery on PC board, note that the parallel portion of the wire against the dry battery is as long as possible.




**Printed Circuit Board Identification**



## PARTS IDENTIFICATION

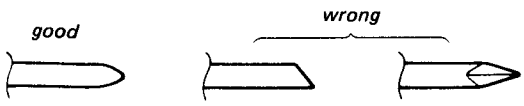



❶ Battery compartment
❷ ■ STOP button
❸ MODE selector
❹ ▼ PLAY button
❺ ▲ DIR (direction) button
❻ ▼▼/▲▲ (fast forward/ fast reverse) switch
❼ VOL (volume) control
❽ TAPE OPR (operation) indicator
❾ ∩ Headphones jack
❿ TAPE selector
⓫ DOLBY NR switch
⓬ Cassette holder
⓭ PUSH OPEN button (bottom)
⓮ DC IN 1.5 V (external power input) jack (bottom)
⓯ OPEN lever (rear)
⓰ Stereo headphones (supplied)

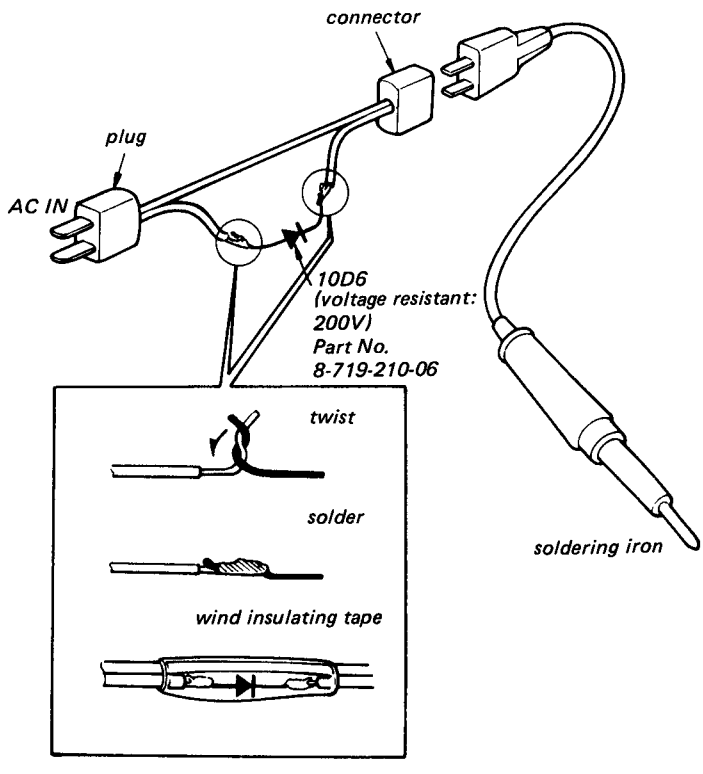
### Flexible Circuit Board Repairing

1. Keep the temperature of the soldering iron at 270° ± 10°C during repairing.
   You can maintain the temperature of the soldering iron around 270°C by using the thermal controller as illustrated on the right.
2. Do not touch the soldering iron more than 4 seconds or 4 times on the same conductor of the circuit board.
3. Do not apply force on the conductor when soldering or unsoldering.

### Tip of soldering iron




### To make thermal controller of soldering iron



**Replacing chip components**

All chip components should be connected and disconnected, using a tapered soldering iron [temperature of the iron tip: less than 280°C (536°F)], a pair of tweezers and braided wire.

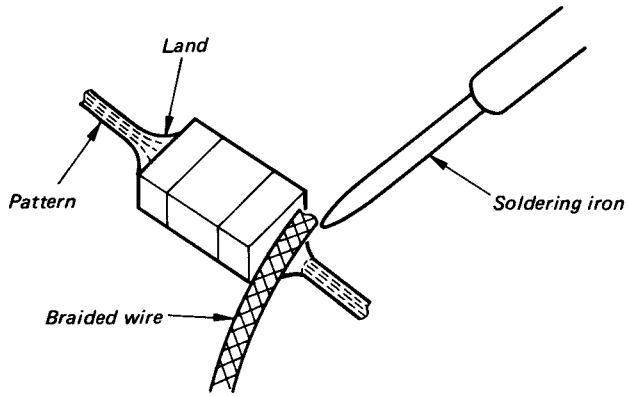
**Precautions for replacement**

1. **Do not disconnect the chip component forcefully. Otherwise, the pattern may peel off.**
2. **Never re-use a disconnected chip component. Dispose of all old chip components.**
3. **To protect the chip component, heating time for attaching the component should be within 3 seconds.**

○ **Removing chip components**

**(1) Removing solder at electrode**

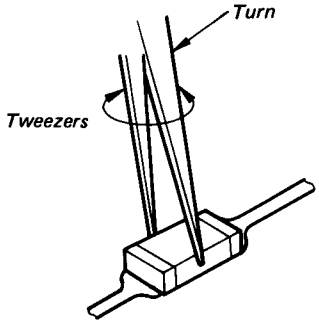
Remove the solder at the electrode, using a thin braided wire. Do not remove the solder of the part (chip component) attached adjacent to the electrode.




**(2) Disconnecting chip components**

Turn the tweezers with the soldering iron alternately applied to both electrodes, and the chip component will be disconnected. Take careful precautions while disconnecting, because if the chip component is forcefully removed the land may peel off.

Never re-use a disconnected chip component.




**(3) Smoothing the soldered surface**

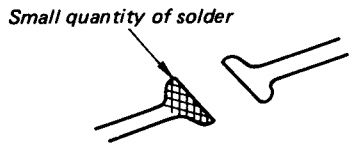
After disconnecting the chip component, remove the solder by using a braided wire to smooth the land surface.

○ **Connecting chip components**

The value of chip components is not displayed on the main body. Take due precautions to avoid mixing new chip components with other ones.

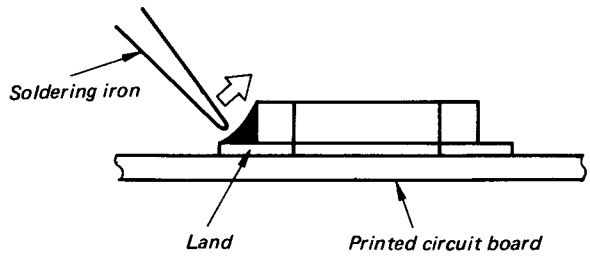
**(1) Applying solder to land on one side**

Apply a thin layer of solder to the land on one side where the chip component is to be connected. Too much solder may cause bridging.




**(2) Speedy soldering**

Hold the chip component at the desired position, using tweezers, and apply the soldering iron in the arrow-marked direction. To protect the chip component, heating time should be within 3 seconds.

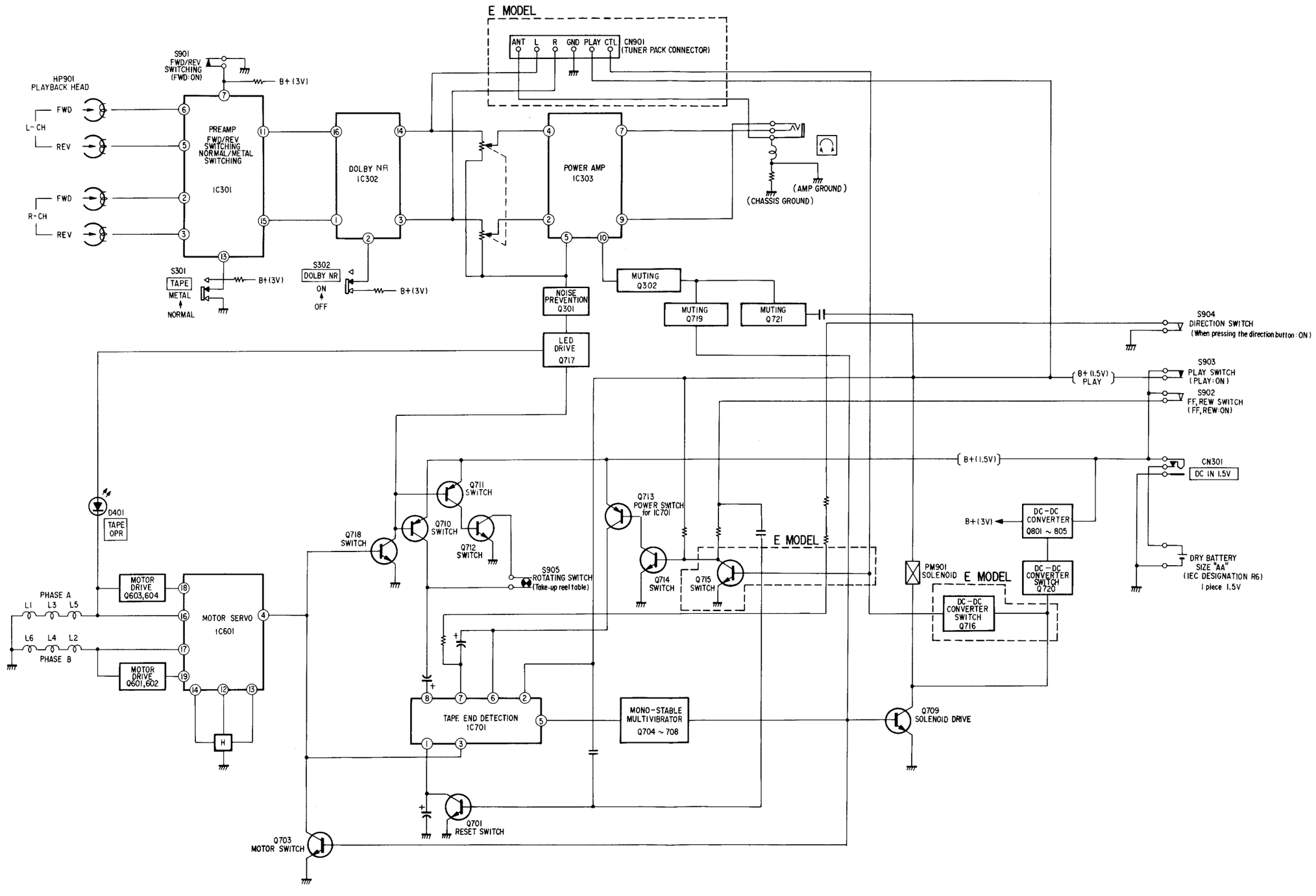



**(3) Speedy soldering of electrode on the other side**

Solder the electrode on the other side in the same way as in (2) above.

# SECTION 1
# OUTLINE

## 1-1. BLOCK DIAGRAM



# SECTION 2
# MECHANICAL OPERATION DESCRIPTION

## FWD OPERATION 1

❶ FWD lever is moved by pressing the PLAY button.
❷ S903 (Play switch) goes ON.
❸ FWD lever is locked by lock plate.
❹ SU gear engages with SU cam gear by SU lever (C) and SU lever (B).
❺ SU cam gear rotates.
❻ SU cam gear stops rotating by SU lock lever.

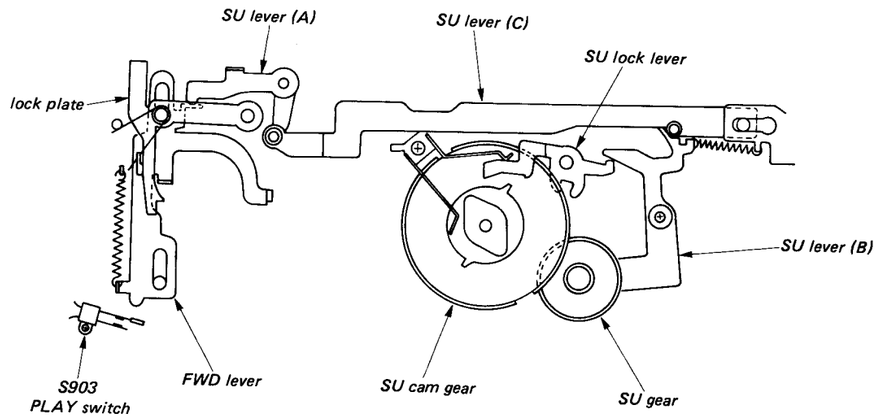
● Illustration is viewed from rear side.

Mechanical energy flow chart in FWD mode

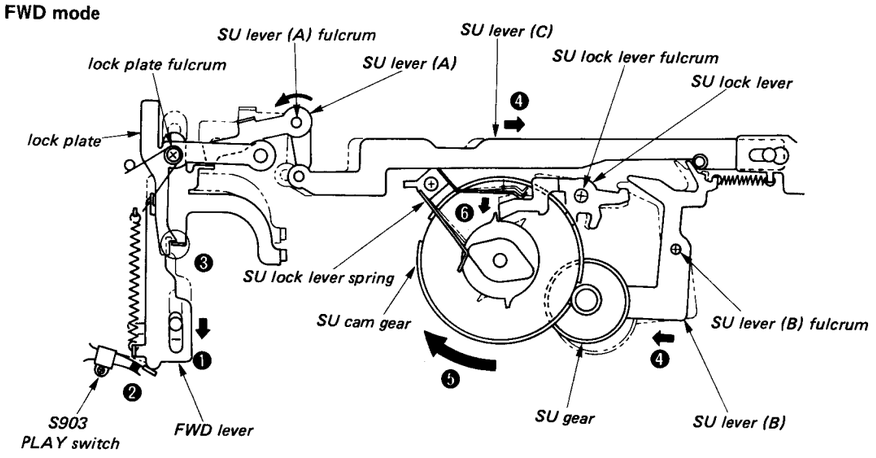
Motor
↓
Belt
↓
Midway Pulley
↓
Midway Pulley Gear
↓
T Reel Table

Belt → Flywheel of FWD Side
↓
Capstan

● **STOP mode**




● **FWD mode**

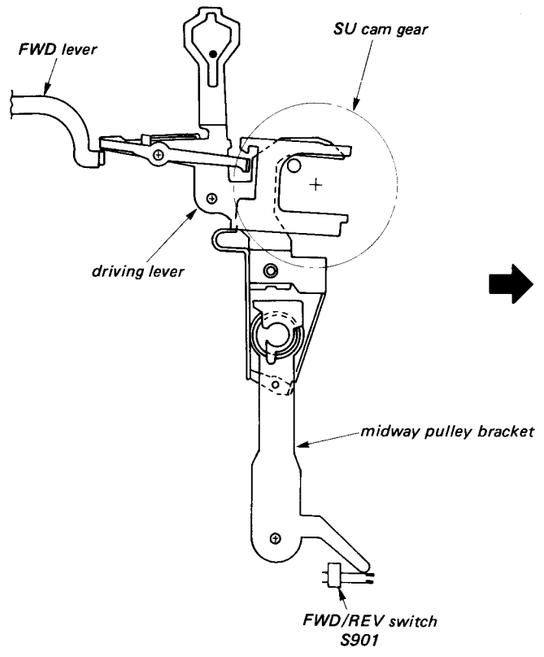




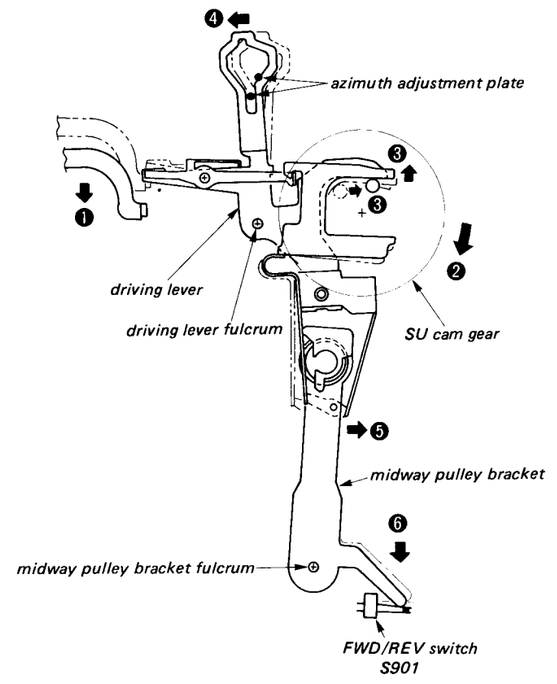

## FWD OPERATION 2

❶ FWD lever is moved.
❷ SU cam gear rotates.
❸ Driving lever is moved by rotating of SU cam gear. SU cam gear stops rotating.
❹ Azimuth adjustment plate is moved to FWD side by driving lever.
❺ Midway pulley bracket is moved to FWD side by driving lever.
❻ S901 (FWD/REV switch) goes ON. The unit is set in FWD mode.

● **STOP mode**



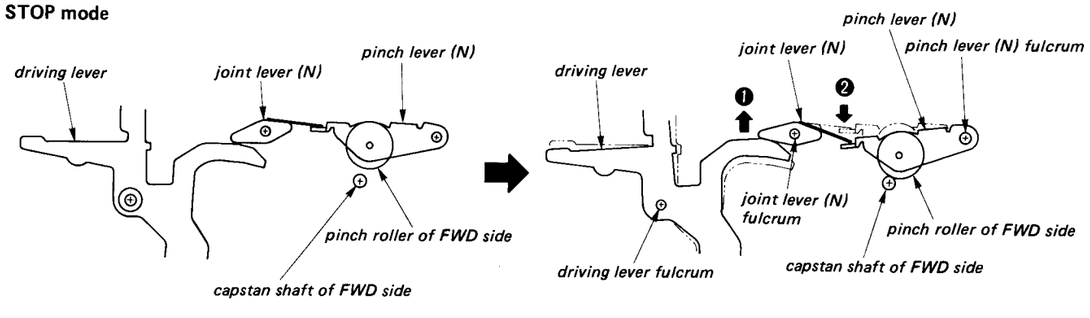

● **FWD mode**




## FWD OPERATION 3

❶ Joint lever (N) is moved by driving lever.
❷ Pinch lever (N) is moved by joint lever (N).
❸ Pinch roller presses against capstan.

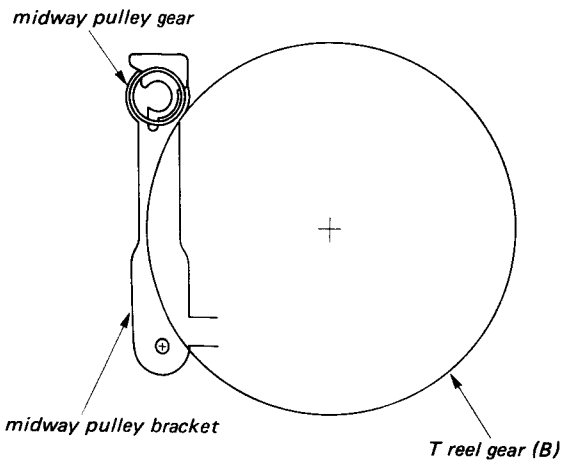
● **STOP mode**



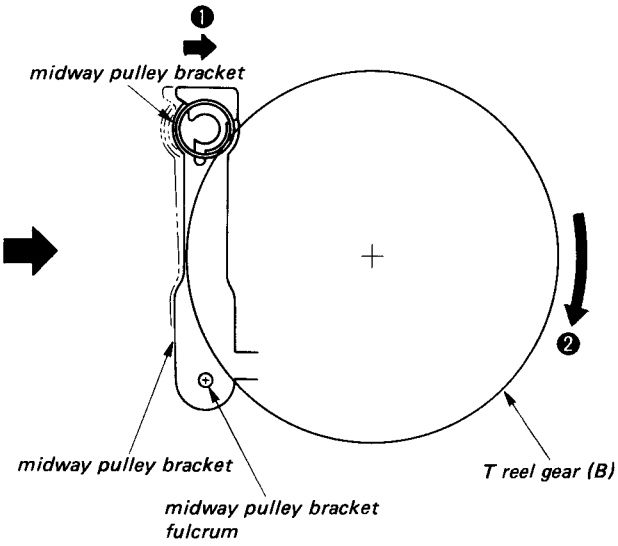
### FWD OPERATION 4

❶ Midway pulley bracket is moved and midway pulley gear engages with T reel gear (B).
❷ Take-up reel table rotates.

- **STOP mode**



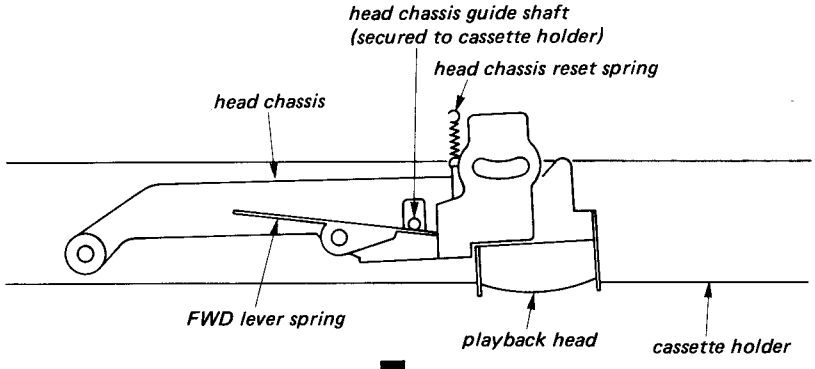

- **FWD mode**



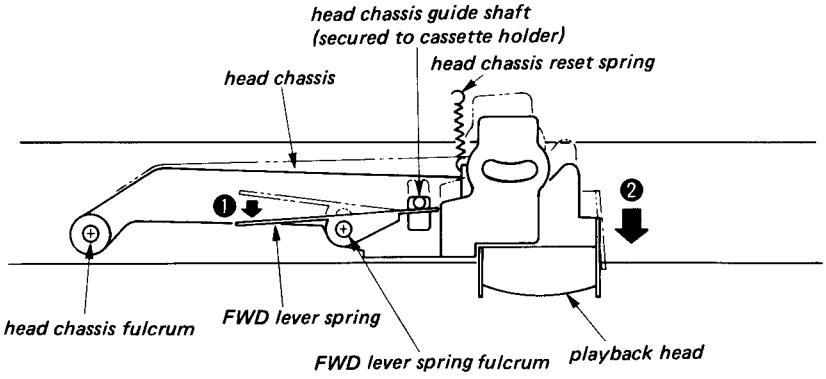

### FWD OPERATION 5

❶ FWD lever spring is moved by FWD arm.
❷ FWD lever spring pushes head chassis guide shaft (secured to cassette holder). Playback head is moved forward.

- **STOP mode**



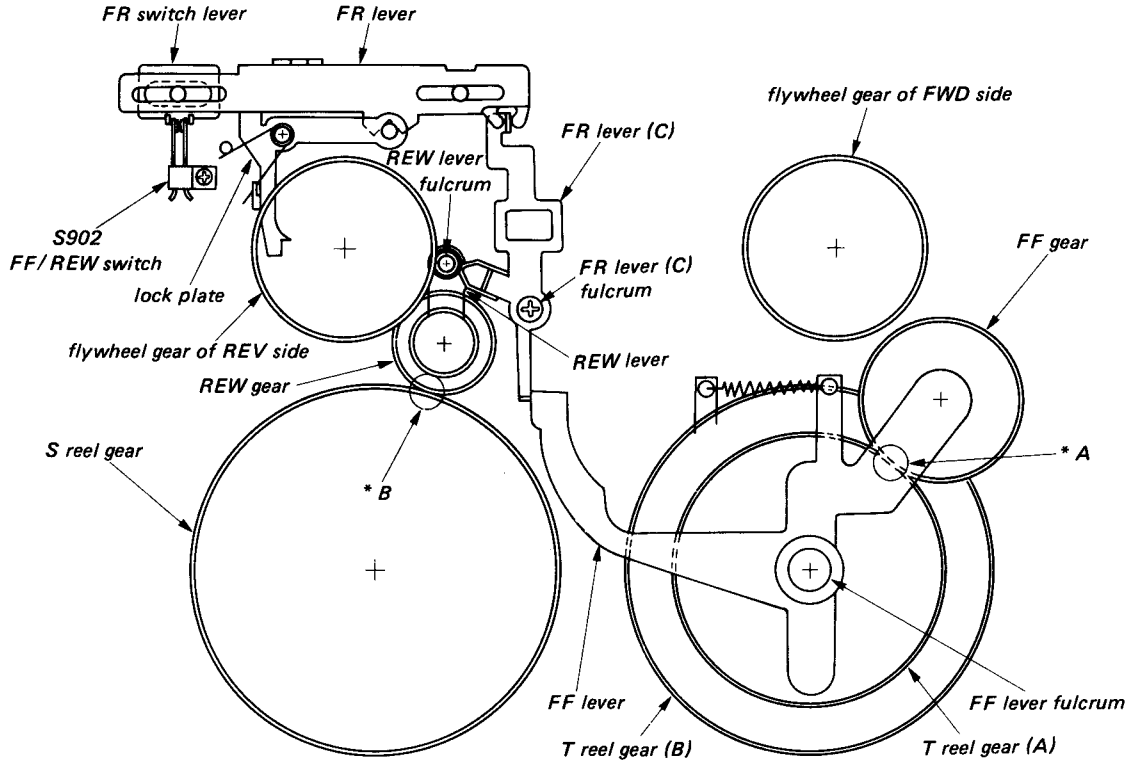

- **FWD mode**



## FF, REW OPERATION

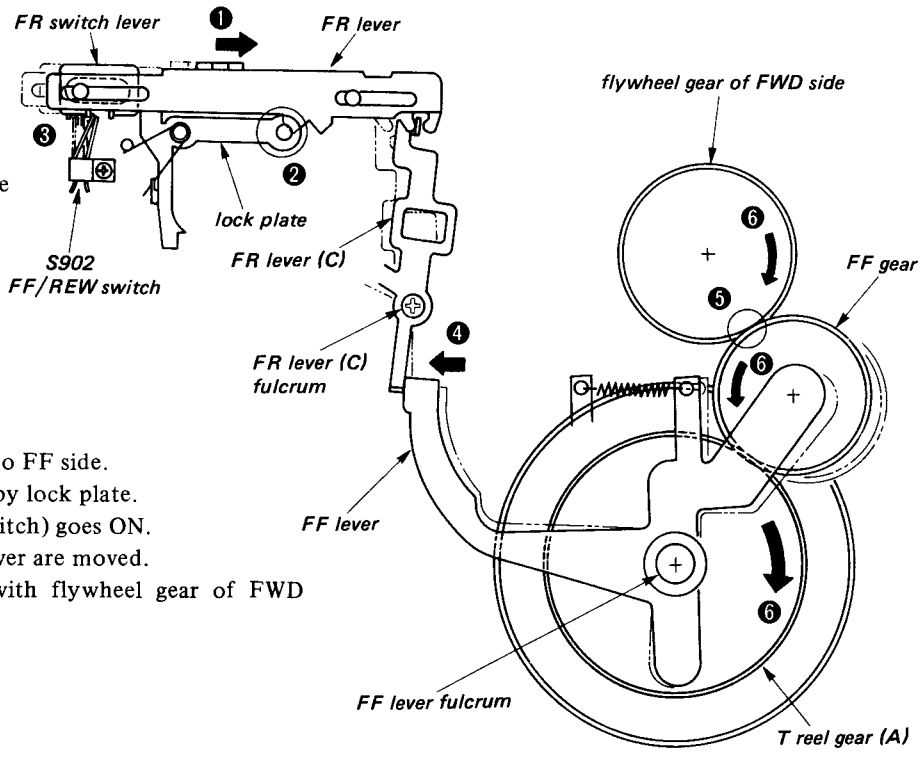
- **STOP mode**

FF gear engages with T reel gear (A) at portion marked * A.
REW gear engages with S reel gear at portion marked * B.




- **FF mode**

Motor
↓
Belt
↓
Flywheel Gear of FWD Side
↓
FF Gear
↓
T Reel Gear




- **FF mode**

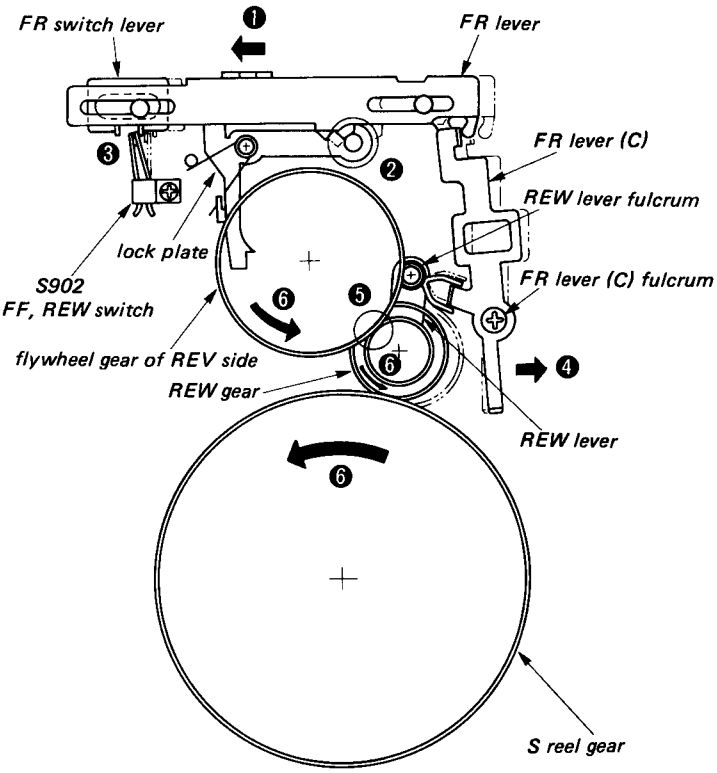
❶ FR lever is moved to FF side.
❷ FR lever is locked by lock plate.
❸ S902 (FF/REW switch) goes ON.
❹ FR lever and FF lever are moved.
❺ FF gear engages with flywheel gear of FWD side.
❻ T reel table rotates.

- **REW mode**

❶ FR lever is moved to REW side.
❷ FR lever is locked by lock plate.
❸ S902 (FF/REW switch) goes ON.
❹ FR lever (C) and REW lever are moved.
❺ REW gear engages with flywheel gear of REV side.
❻ S reel table rotates.

Mechanical energy flow chart

Motor
↓
Belt
↓
Flywheel Gear of REV Side
↓
REW Gear
↓
S Reel Table



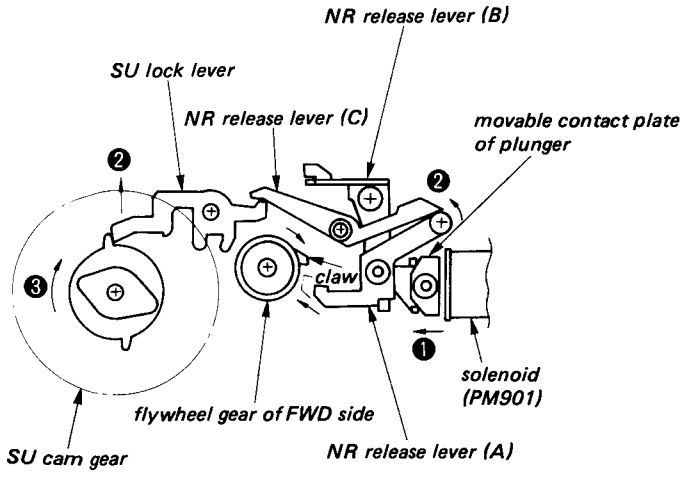

## AUTO REVERSE OPERATION 1

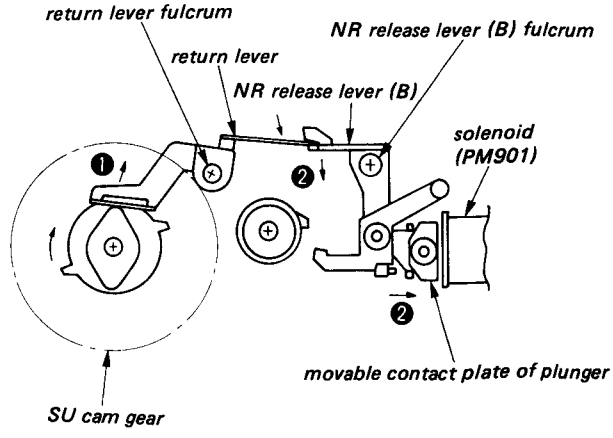
(FWD – TAPE END – REV)

❶ When playing back till tape-end, no signal from T reel table rotating switch is generated and movable contact plate of plunger is separated.
❷ NR release lever (A) is kicked by claw of flywheel gear of FWD side, and locking of SU lock lever is released via NR release lever (C).
❸ SU cam gear rotates and switches to REV side.

## AUTO REVERSE OPERATION 2

❶ Return lever moves at maximum radius portion of cam of SU cam gear.
❷ Movable contact plate of plunger is attracted to solenoid via return lever and NR release lever (B).



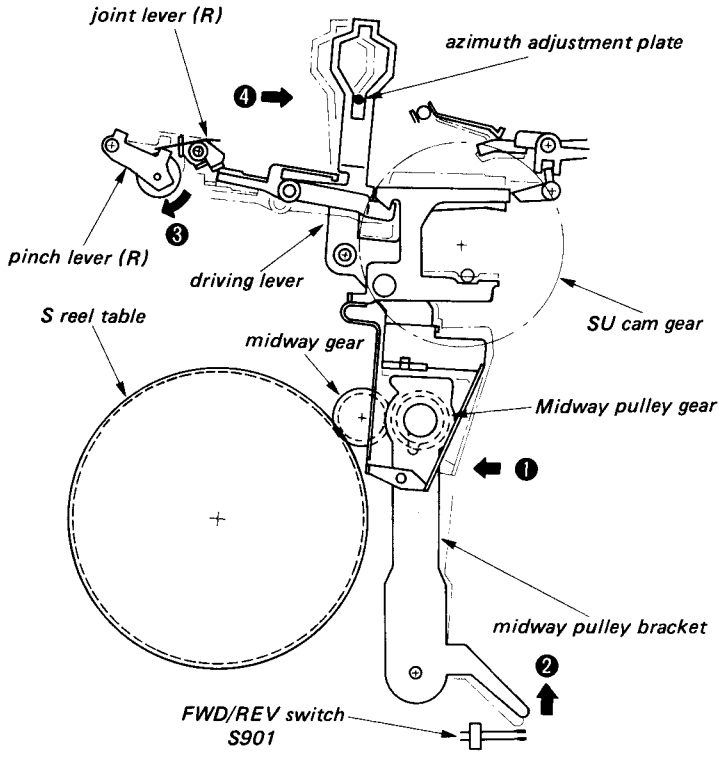
## AUTO REVERSE OPERATION 3

- **REV mode**

❶ Driving lever moves to REV side. Midway pulley engages with midway gear and S reel table rotates.
❷ S901 (FWD/REV switch) goes OFF. The unit is set in FWD mode.
❸ Pinch roller presses against capstan.
❹ Azimuth adjustment plate is moved to REV side by driving lever.

Mechanical energy flow chart

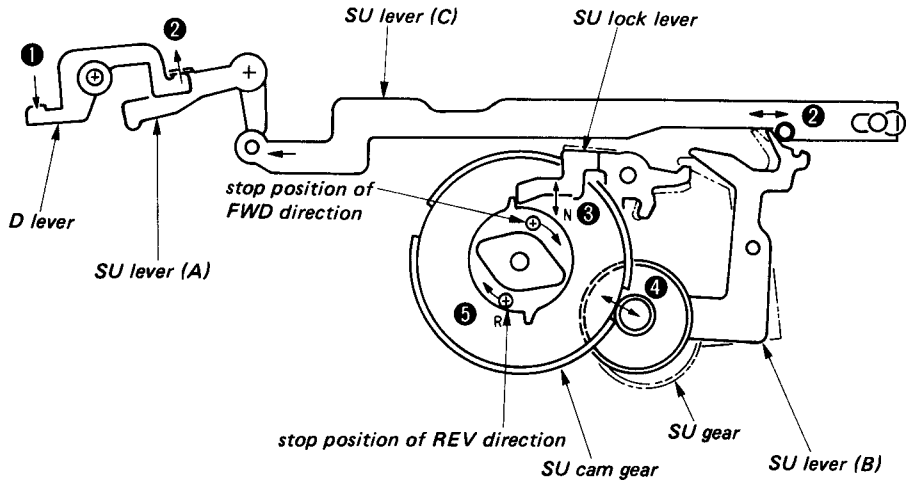
Motor
↓
Belt
↓
Midway Pulley → Flywheel of REV Side
↓ ↓
Midway Pulley Gear → Capstan
↓
Midway Gear
↓
S Reel Table




## DIRECTION OPERATION

(When pressing DIR button in playback mode)

❶ D lever is moved when pressing DIR button.
❷ SU lever (A) and SU lever (C) are moved by D lever.
❸ Locking of SU lock lever is released.
❹ SU gear engages with SU cam gear.
❺ SU cam gear is locked by SU lock lever after rotating a half turn and switches to playback direction.



## SHUT-OFF OPERATION

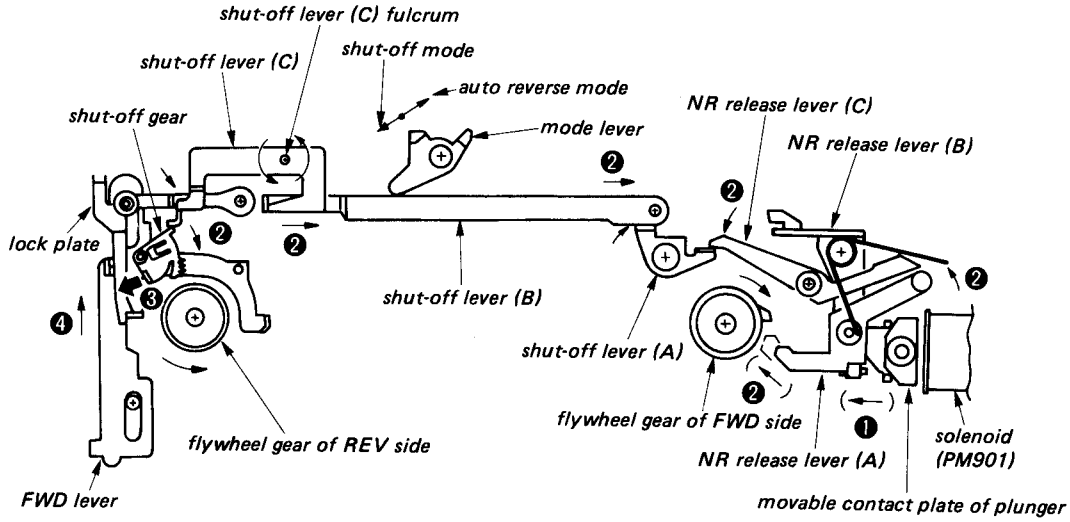
* Operation when tape is fully wound in playback mode with mode lever at shut-off state.

❶ When playing back till tape-end, no signal is generated from T reel table rotating switch and movable contact plate of plunger is detached.

❷ NR release lever (A) is kicked by pawl of FWD side flywheel gear, and shut-off gear is engaged with REV side flywheel gear via NR release lever (C), shut-off levers (A) – (C).

❸ Shut-off gear rotated by REV side flywheel gear rotates in clockwise direction and pushes lock plate.

❹ FWD lever is released, unit is in STOP mode and movable contact plate of plunger is attracted to solenoid.



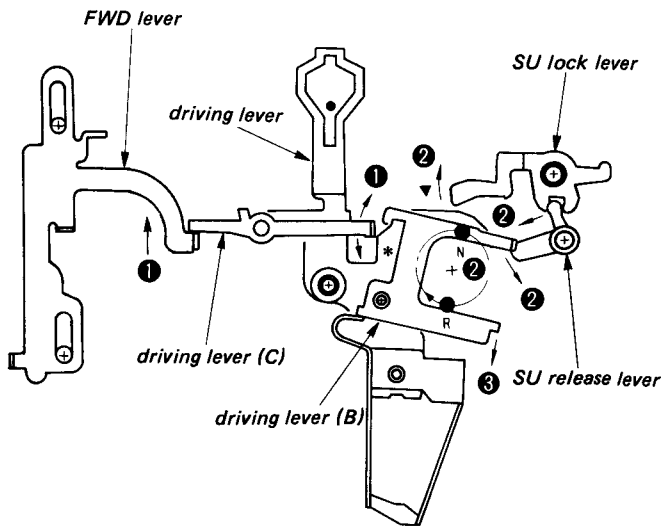

## FWD PRIORITY MECHANISM

* In either case that unit changes FWD to STOP mode or REV to STOP mode, unit is set to FWD playback mode when PLAY button is pushed again.

❶ FWD lever is reset in STOP mode, and engagement of drive levers (B) and (C) is released (* marked portion in right figure).

❷ After unit is changed from FWD to STOP mode, pin of SU cam gear is positioned at • N marked portion.
SU cam gear rotates from • N to • R marked portion, but it is not locked at • R marked portion because drive lever is not locked.

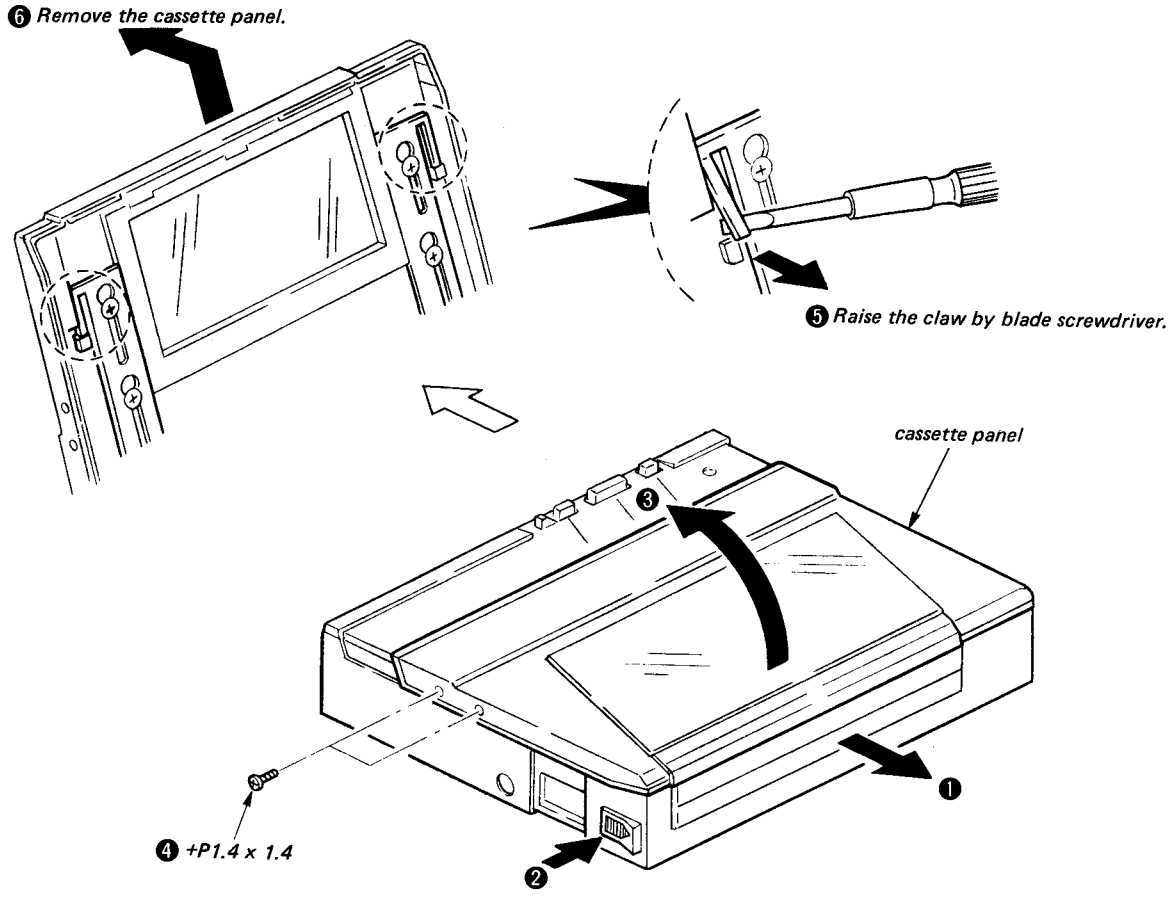
❸ When SU cam gear rotates from • R to • N portion, driving lever (B) is engaged with driving lever (C). SU cam gear stops rotating at • N marked portion and unit is set to FWD playback mode.
After unit is in STOP mode from REV mode, pin of SU cam gear is positioned at • R marked portion.
When SU cam gear rotates from • R to • N marked portion, driving lever (B) is engaged with driving lever (C). SU cam gear stops rotating at • N marked portion and unit is in FWD playback mode.



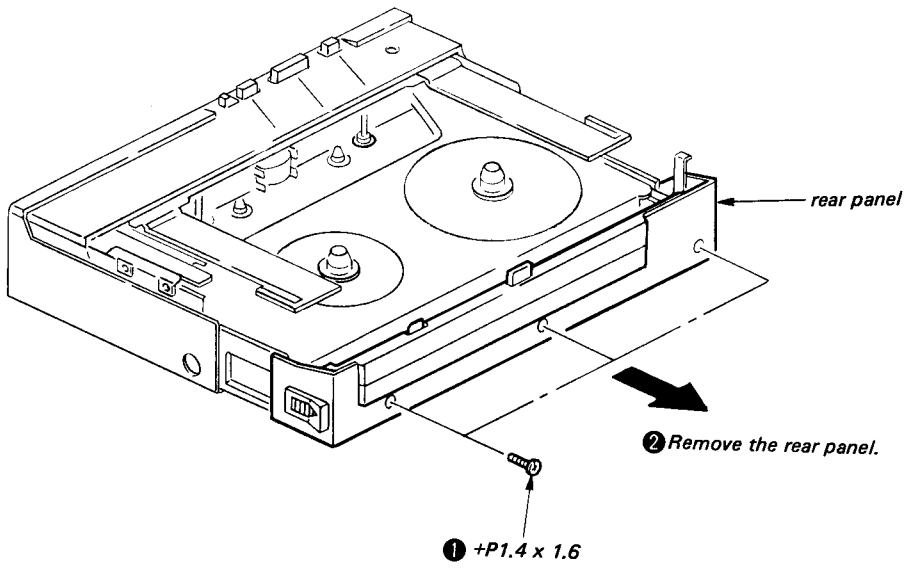
# SECTION 3
# DISASSEMBLY

**Note:** Follow the disassembly procedure in the numerical order given.

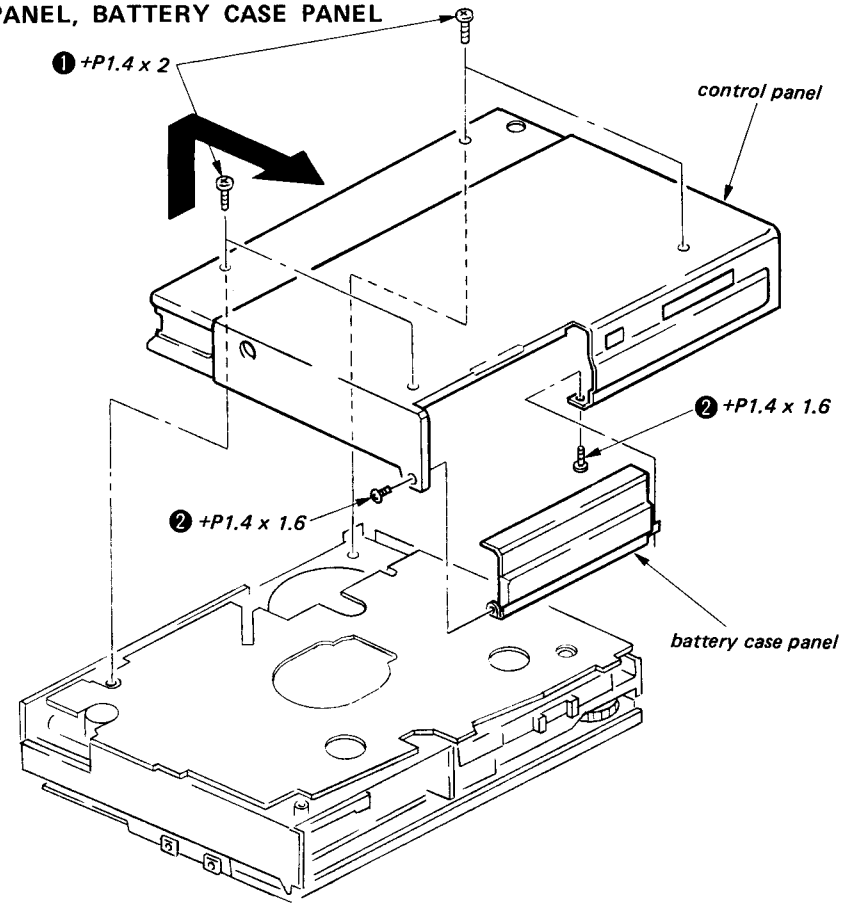
## CASSETTE PANEL



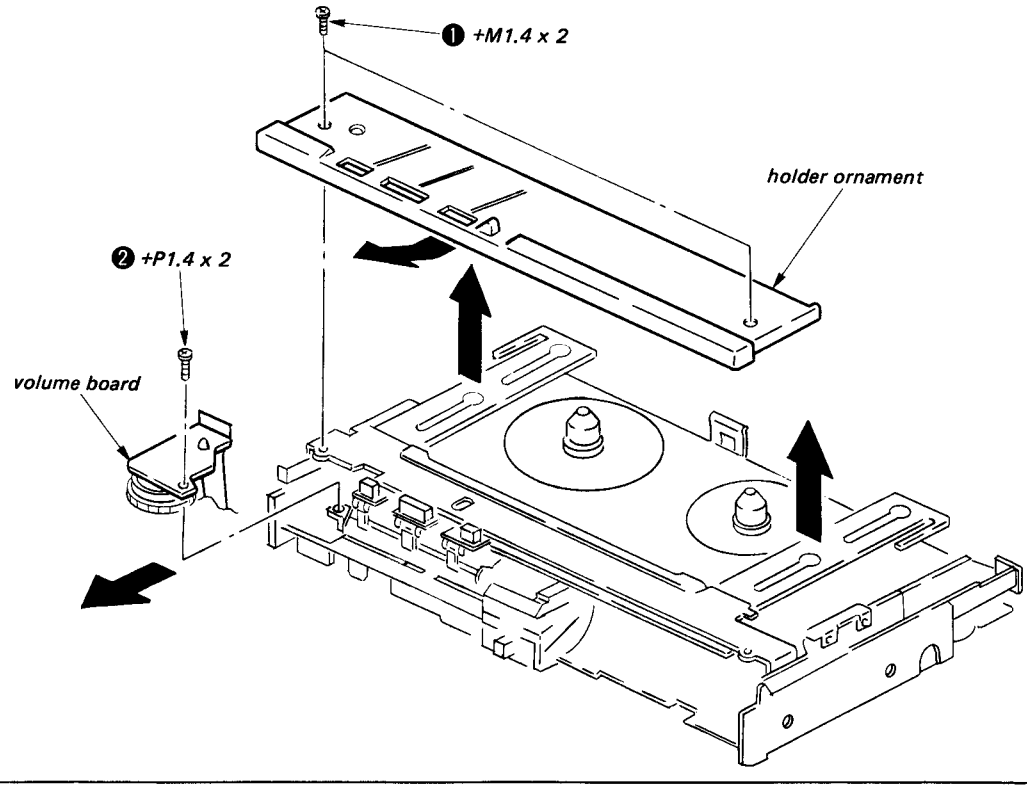

## REAR PANEL



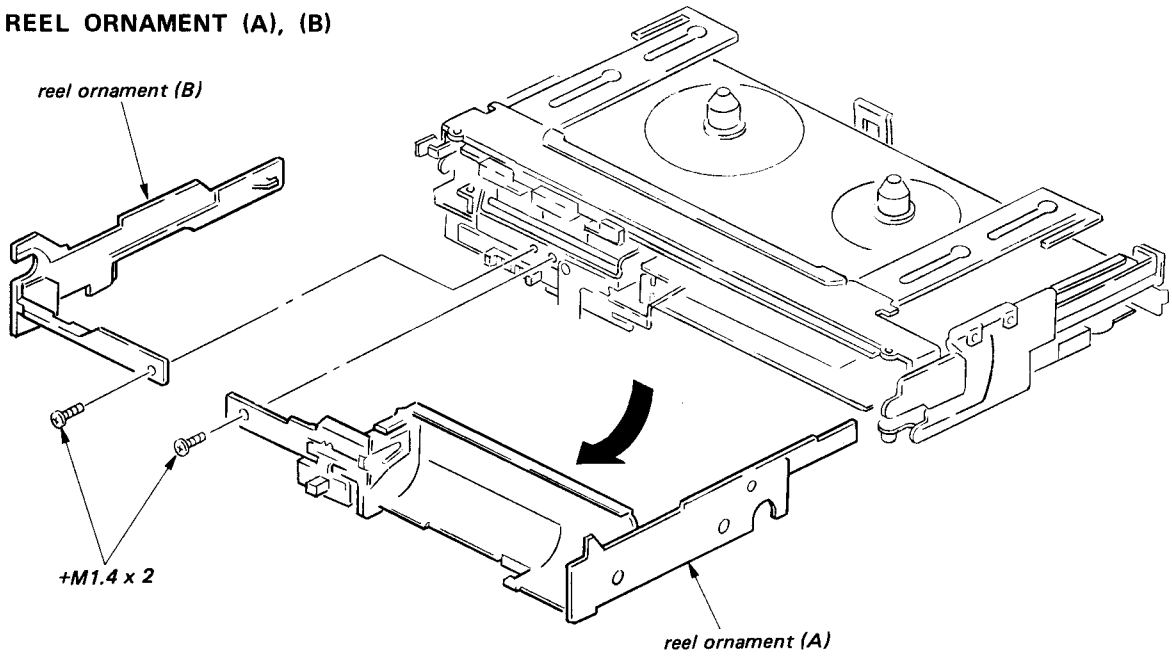
## CONTROL PANEL, BATTERY CASE PANEL



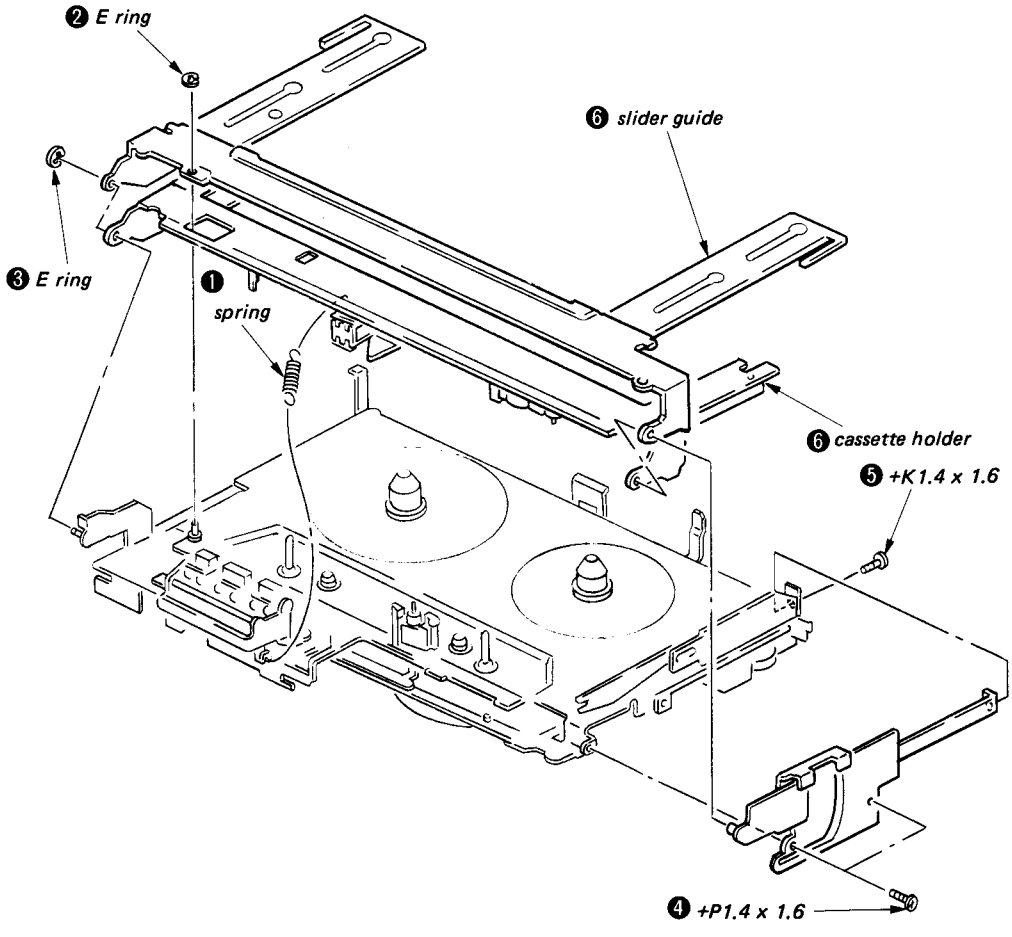

## HOLDER ORNAMENT, VOLUME BOARD



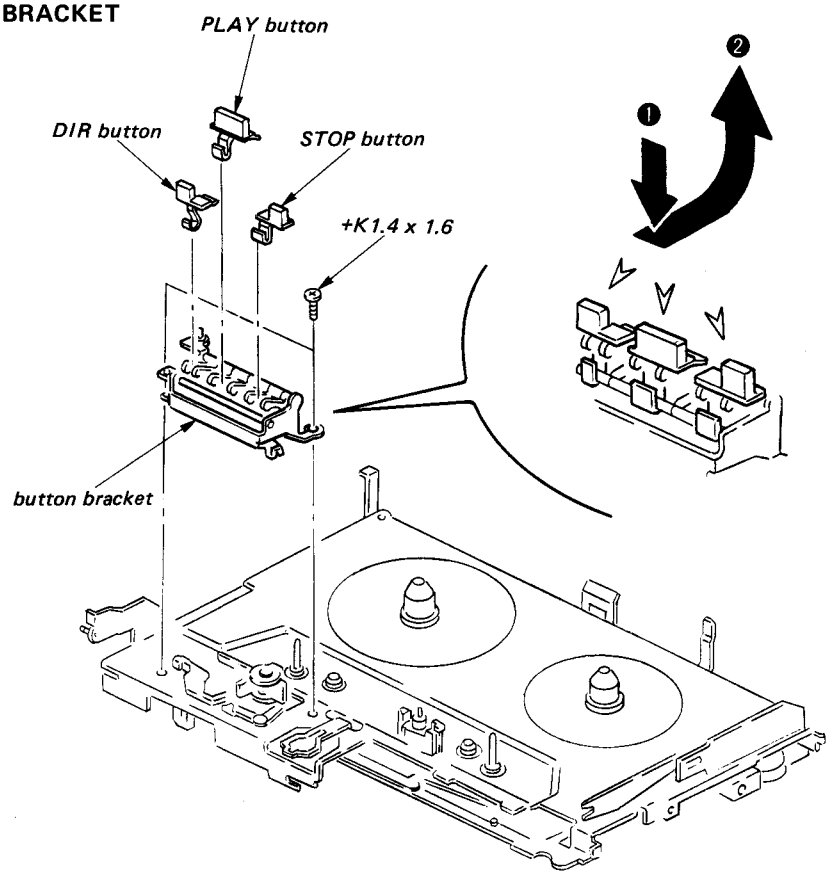
## REEL ORNAMENT (A), (B)




## CASSETTE HOLDER, SLIDER GUIDE

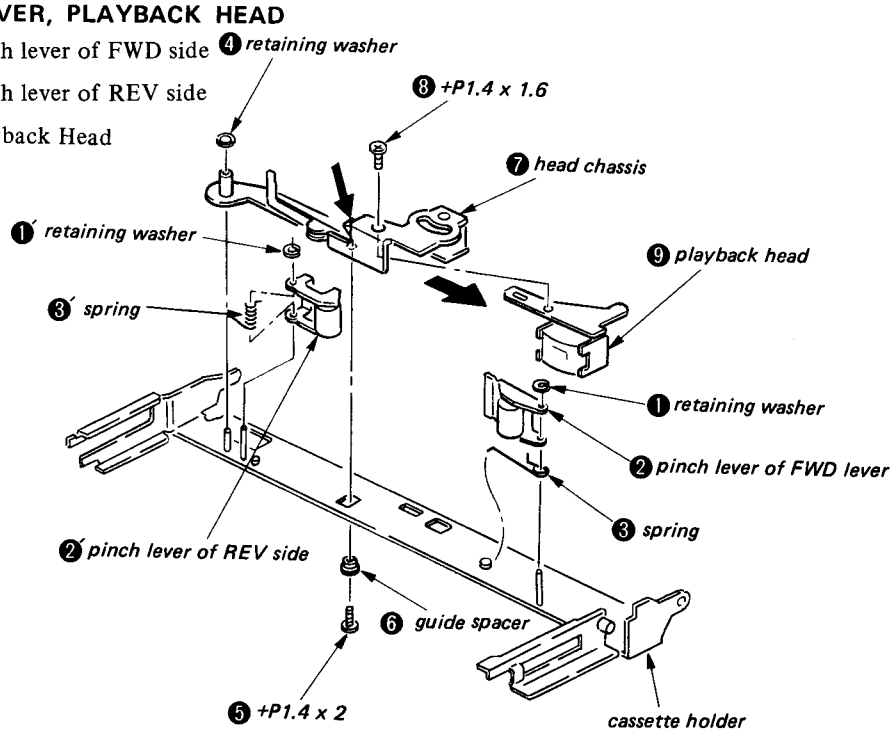


## BUTTON BRACKET



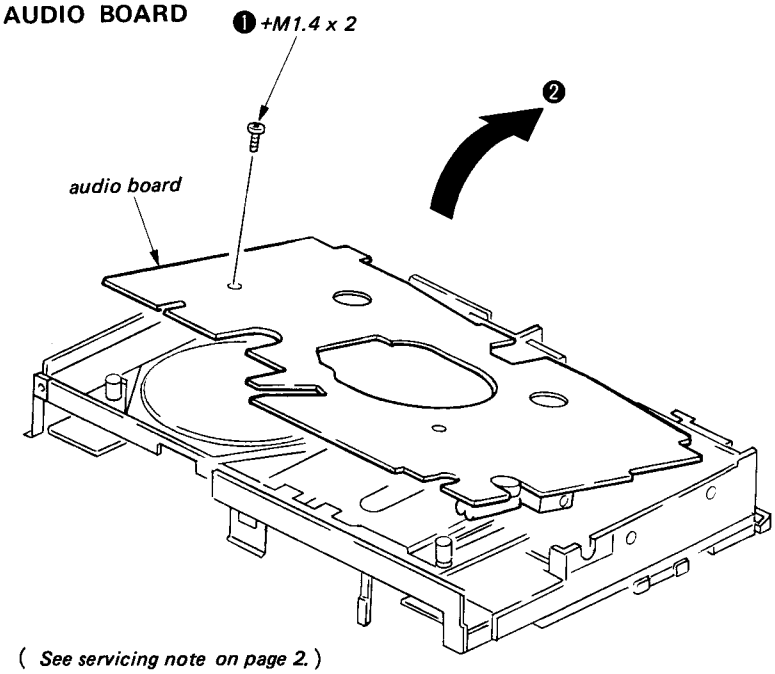

## PINCH LEVER, PLAYBACK HEAD

❶~❸, Pinch lever of FWD side
❶´~❸´, Pinch lever of REV side
❹~❾, Playback Head



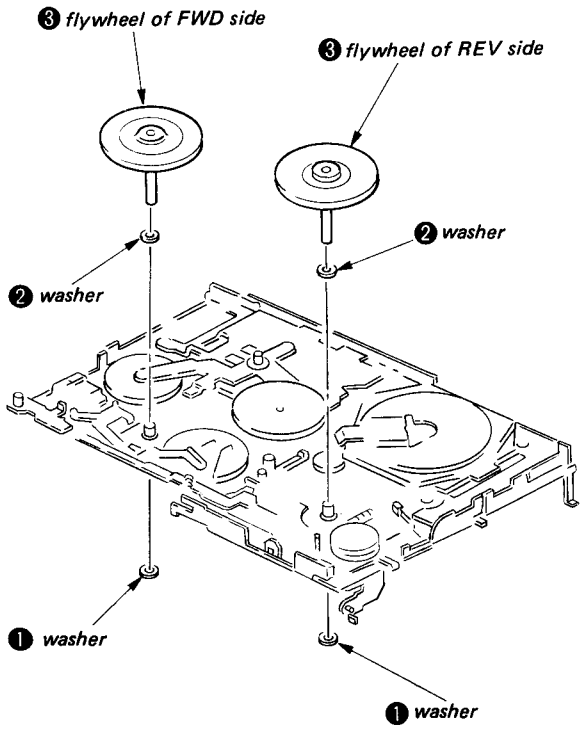
Remove the control panel.
(See page 15.)

## AUDIO BOARD

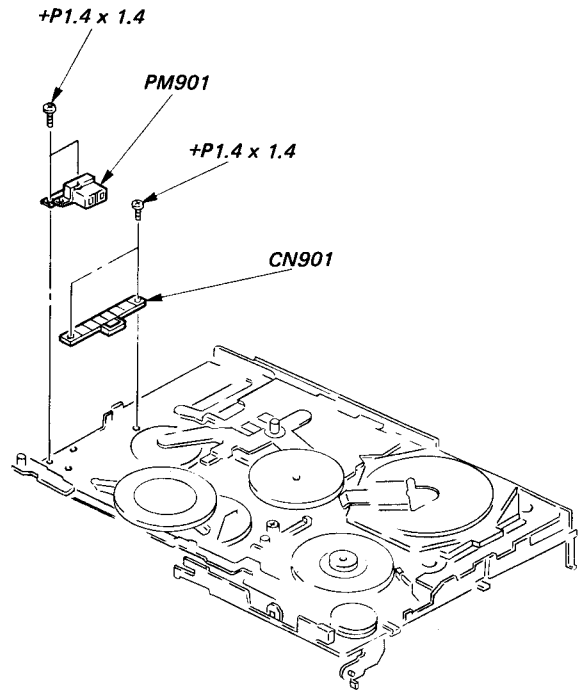



( See servicing note on page 2. )

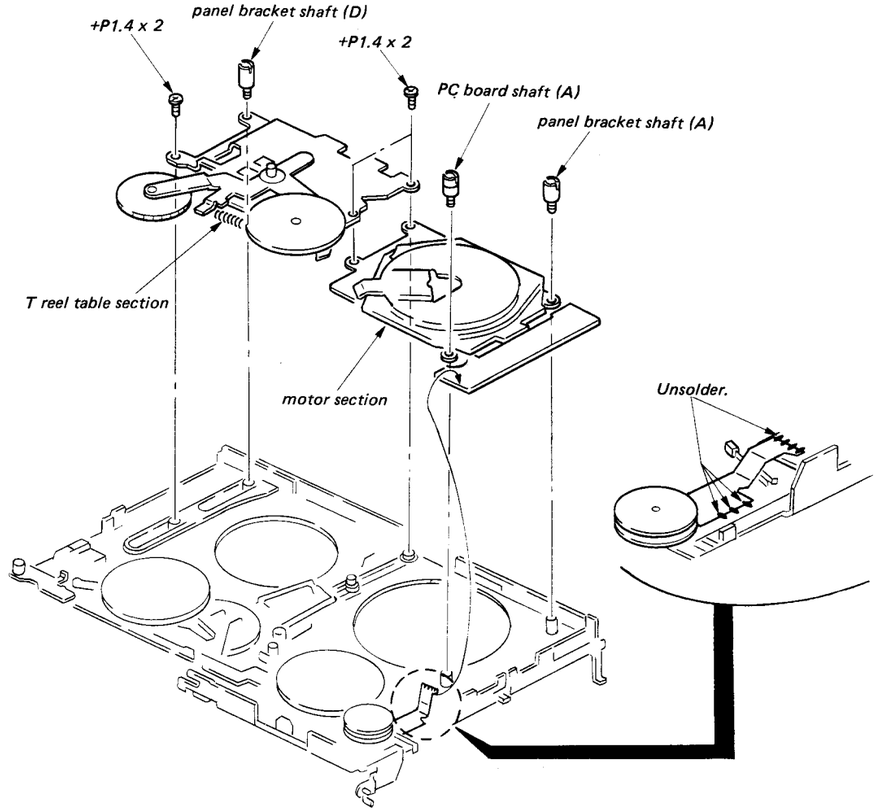
## FLYWHEEL



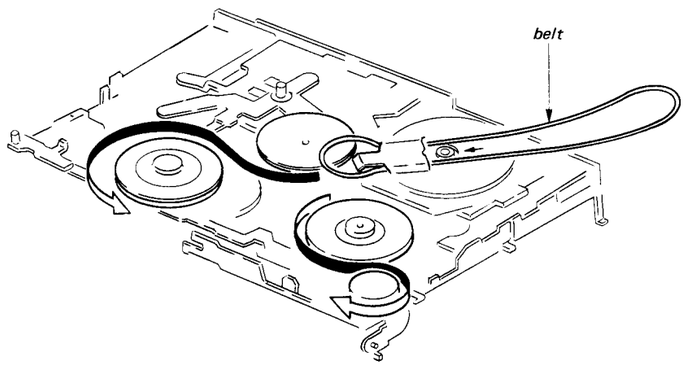

## SOLENOID (PM901), TUNER PACK CONNECTION TERMINAL (CN901)



**T REEL TABLE SECTION, MOTOR SECTION**




**BELT**






## SECTION 4
## ADJUSTMENTS

### MECHANICAL ADJUSTMENTS AND MEASUREMENT

#### PRECAUTION

1. Clean the following parts with a denatured alcohol-moistened swab:
   - playback head
   - capstan
   - pinch roller
   - rubber belts
   - idlers
2. Demagnetize the playback head with a head demagnetizer.
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustment, apply suitable locking compound to the parts adjusted.
5. The adjustments should be performed with the rated power supply voltage (1.3V) unless otherwise noted.

**Torque Measurement**

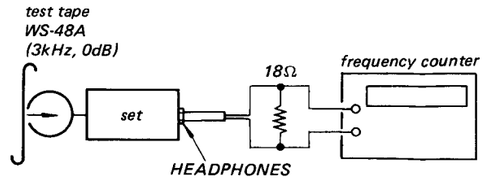
| Mode | Torque Meter | Meter Reading |
|---|---|---|
| FWD | CQ-102C | 20 – 35 g·cm<br>0.27 – 0.48 oz·inch |
| FWD Back Tension | | 0.5 – 2 g·cm<br>0.007 – 0.027 oz·inch |
| REV | CQ-102RB | 20 – 35 g·cm<br>0.27 – 0.48 oz·inch |
| REV Back Tension | | 0.5 – 2 g·cm<br>0.007 – 0.027 oz·inch |
| FF | CQ-201B | more than 60 g·cm<br>more than 0.83 oz·inch |
| REW | | more than 60 g·cm<br>more than 0.83 oz·inch |

**Tape Pulling Force Measurement**

| Mode | Tension Meter | Meter Reading |
|---|---|---|
| FWD | CQ-403A | more than 60 g<br>more than 2.1 oz |
| REV | CQ-403R | more than 60 g<br>more than 2.1 oz |

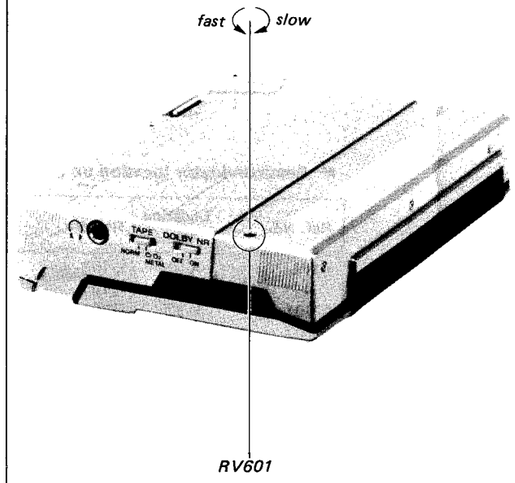
**Tape Speed Adjustment**

**Procedure:**




1. Play back WS-48A (Tape end portion) in FWD mode.
   Adjust the RV601 so that the frequency counter reads 300Hz ±10Hz.
2. Play back WS-48A (Tape top portion) in REV mode.
   Confirm that the reading of frequency counter is within 1.5% from the reading in step 1.

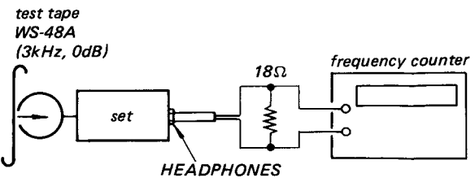
**Adjustment Location:**



ION 4
TMENTS

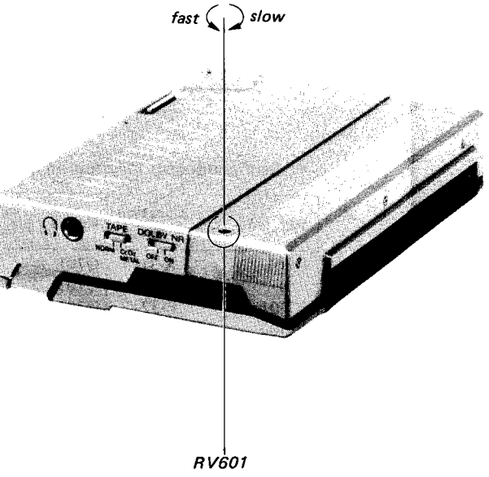
### Tape Speed Adjustment

**Procedure:**




1. Play back WS-48A (Tape end portion) in FWD mode.
   Adjust the RV601 so that the frequency counter reads 300Hz ±10Hz.
2. Play back WS-48A (Tape top portion) in REV mode.
   Confirm that the reading of frequency counter is within 1.5% from the reading in step 1.

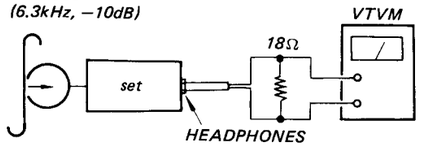
**Adjustment Location:**



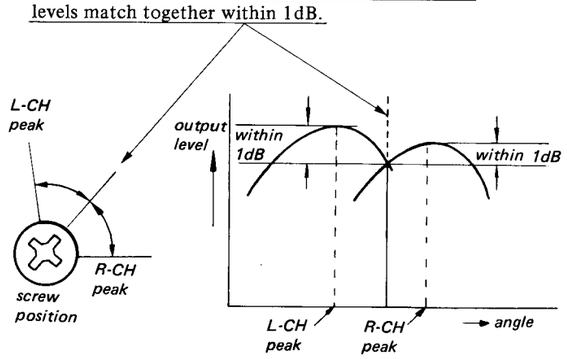

### Playback Head Azimuth Adjustment

**Procedure:**

1. Playback mode

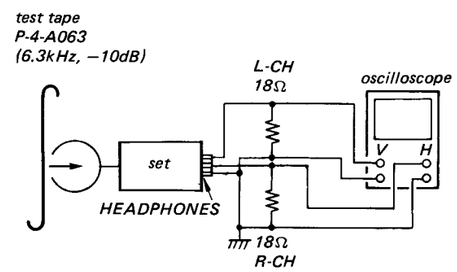


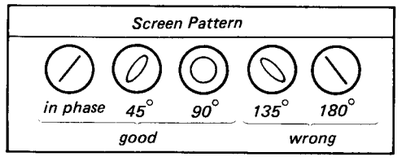

2. Turn the adjustment screw for the maximum output levels. If these levels do not match, turn the adjustment screw until both of output levels match together within 1dB.



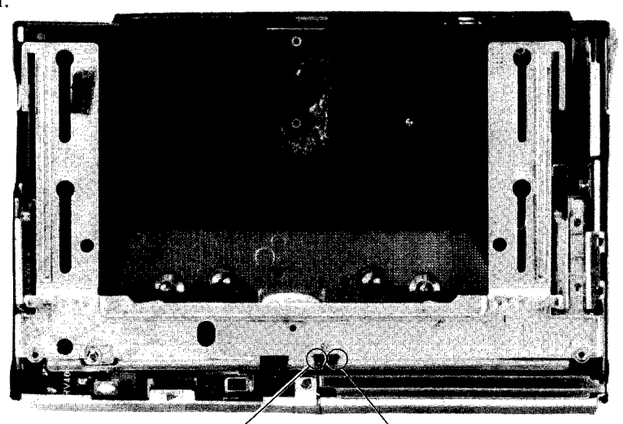

Adjustment should be made in both directions of FWD and REV.
Adjustment screws should be stopped turning in the clockwise direction.
After the adjustment, lock the screws with locking compound.

3. Phase Check



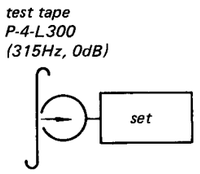

**Adjustment Location:**



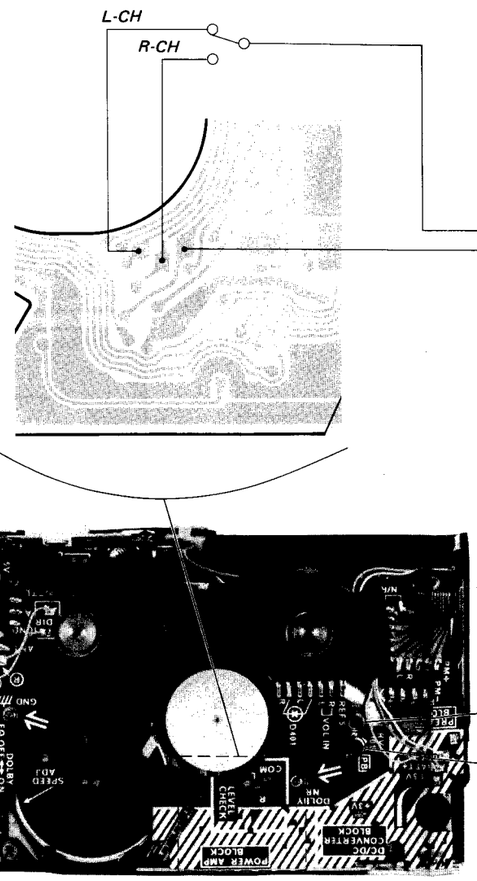

### Playback Level Adjustment

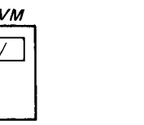
**Procedure:**

1. Playback mode




2. Adjust RV101 (L-CH), RV201 (R-CH) so that the VTVM reading is −27.7 ±1dB (0.028V − 0.036V).



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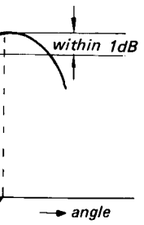


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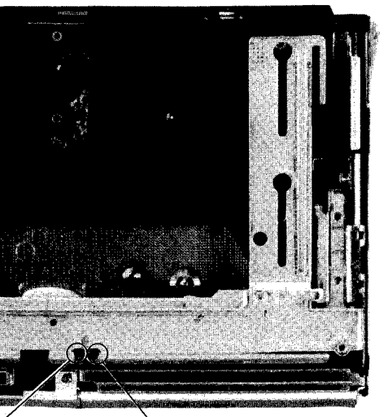
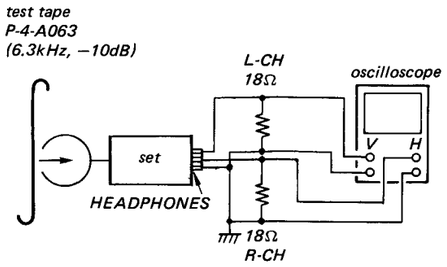
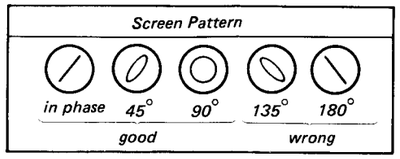


D side adjustment screw of REV side

3. Phase Check



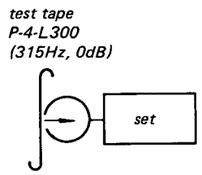





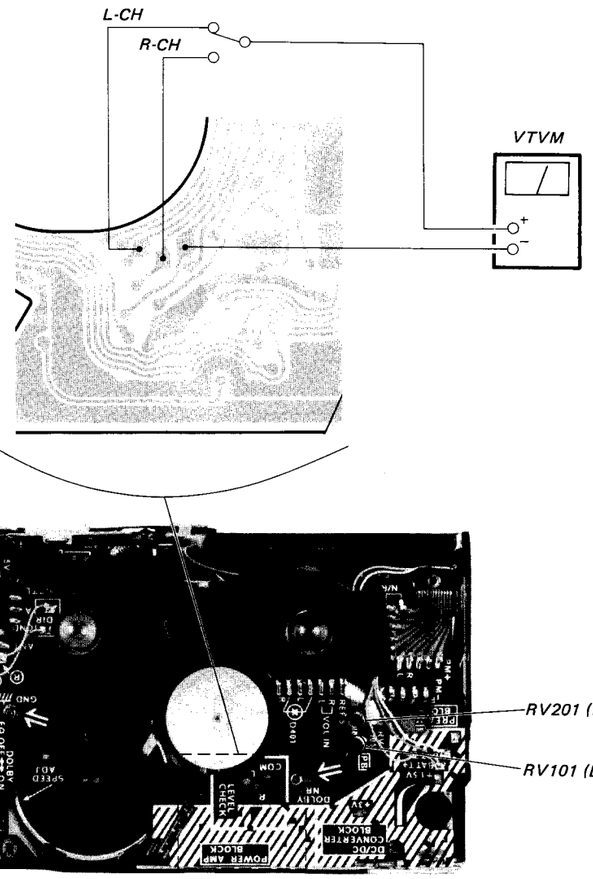

**Playback Level Adjustment**

**Procedure:**

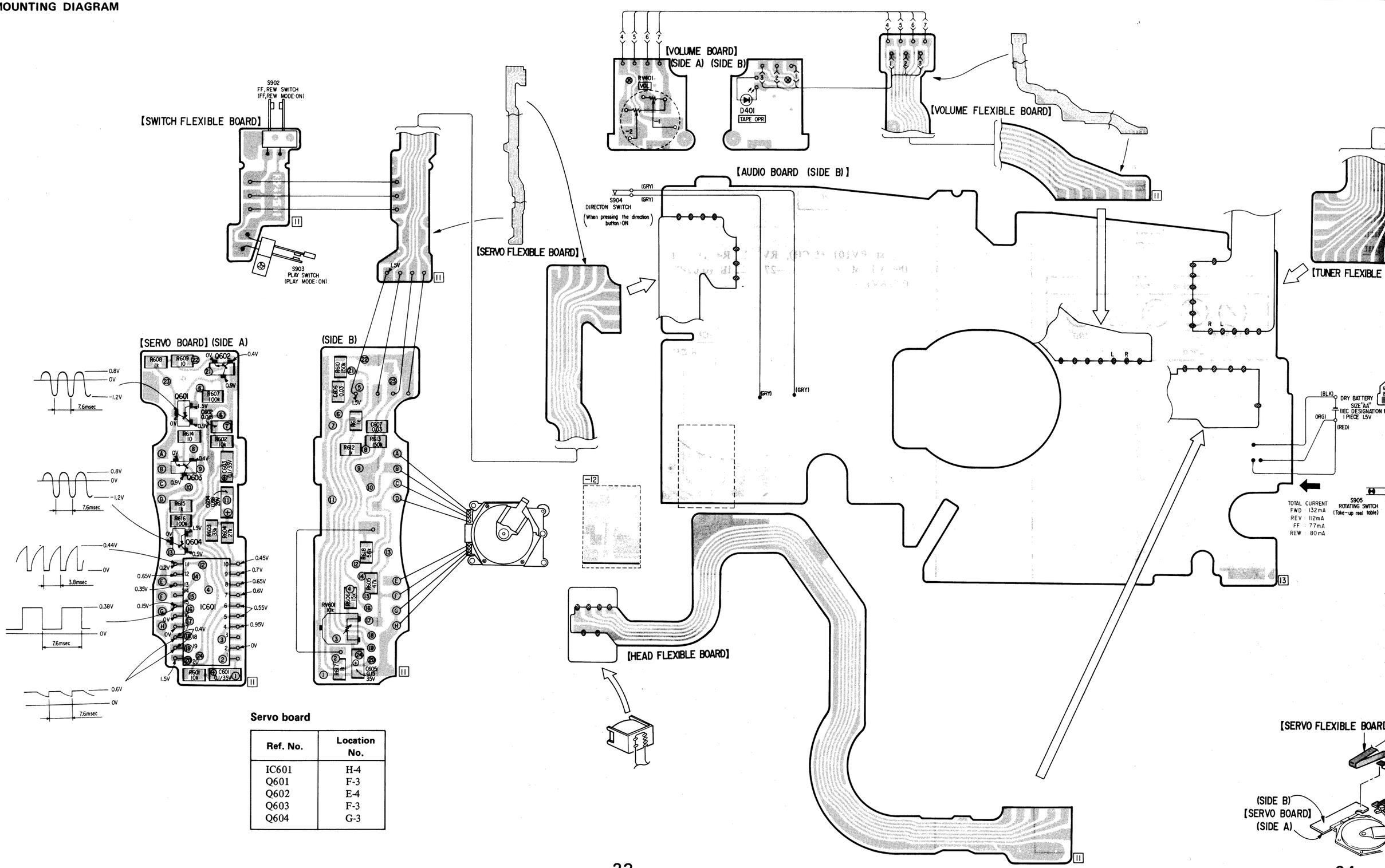
1. Playback mode




2. Adjust RV101 (L-CH), RV201 (R-CH) so that the VTVM reading is −27.7 ±1dB (0.028V − 0.036V).



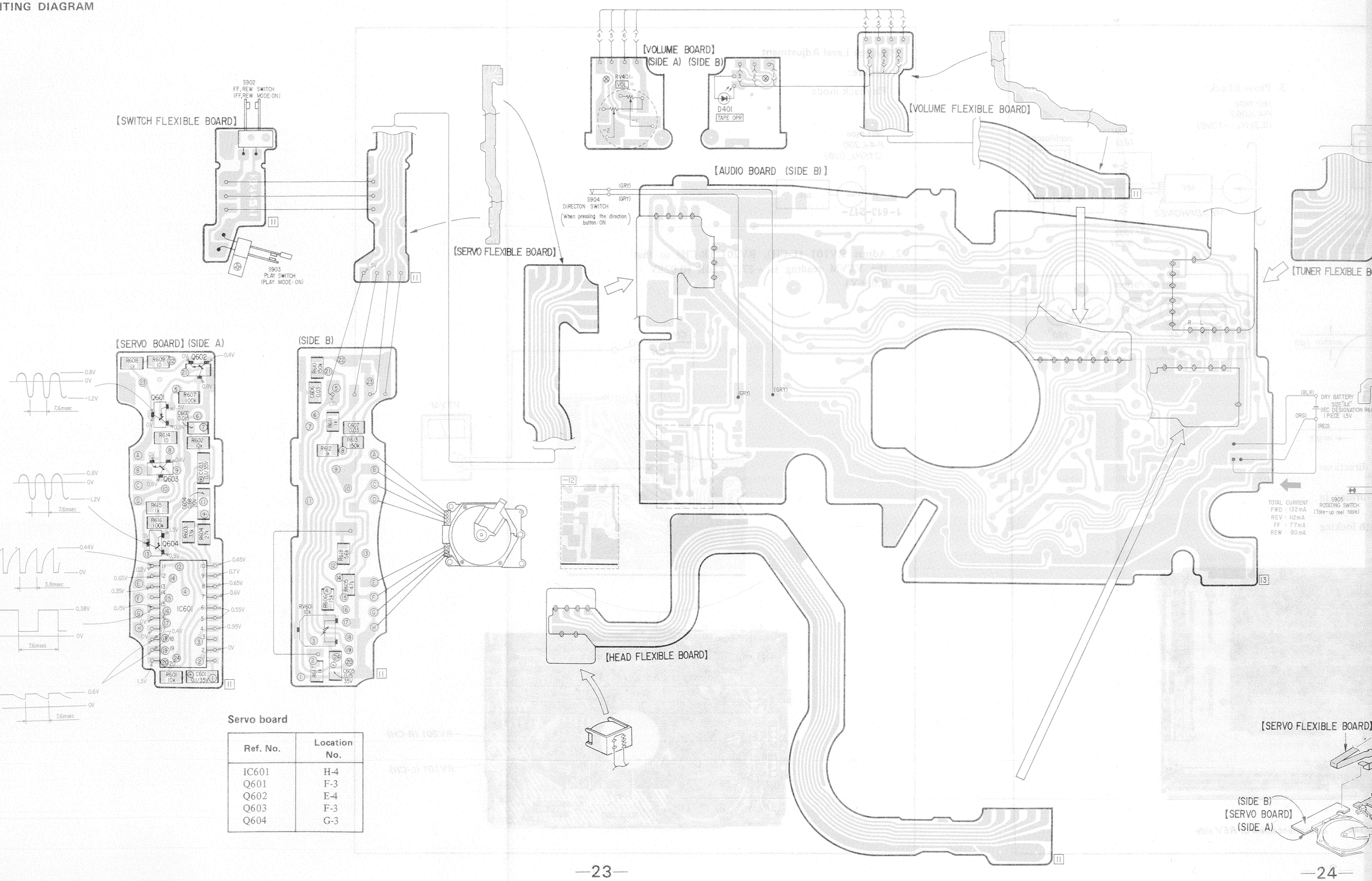
## 5-1. MOUNTING DIAGRAM




**Servo board**

| Ref. No. | Location No. |
|---|---|
| IC601 | H-4 |
| Q601 | F-3 |
| Q602 | E-4 |
| Q603 | F-3 |
| Q604 | G-3 |

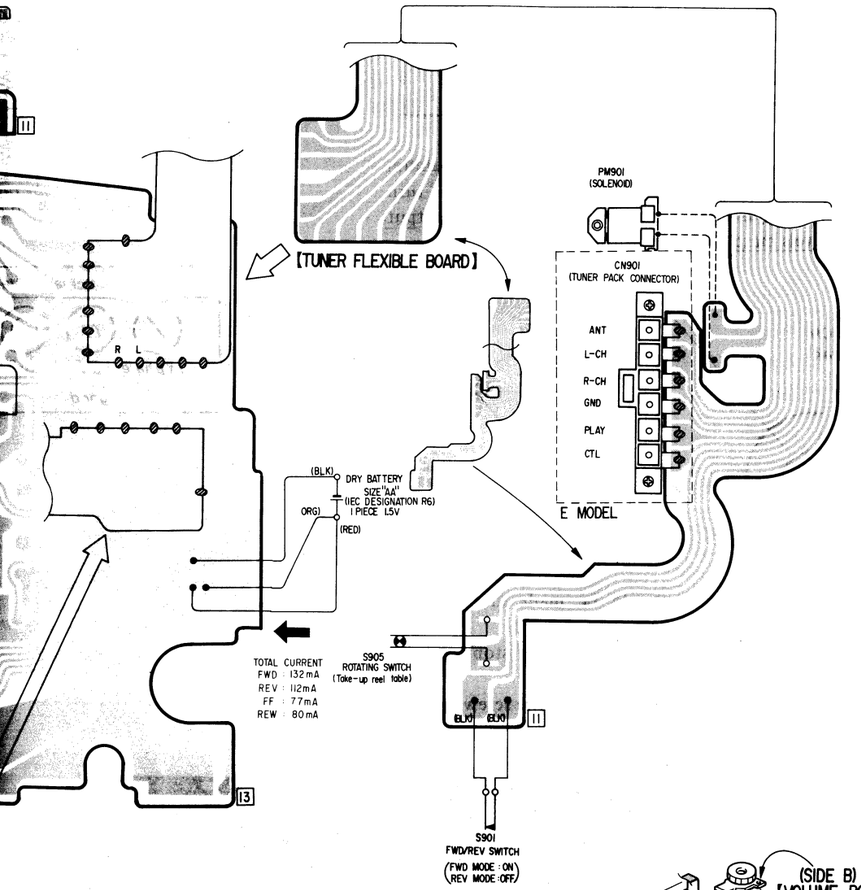
## 5-1. MOUNTING DIAGRAM

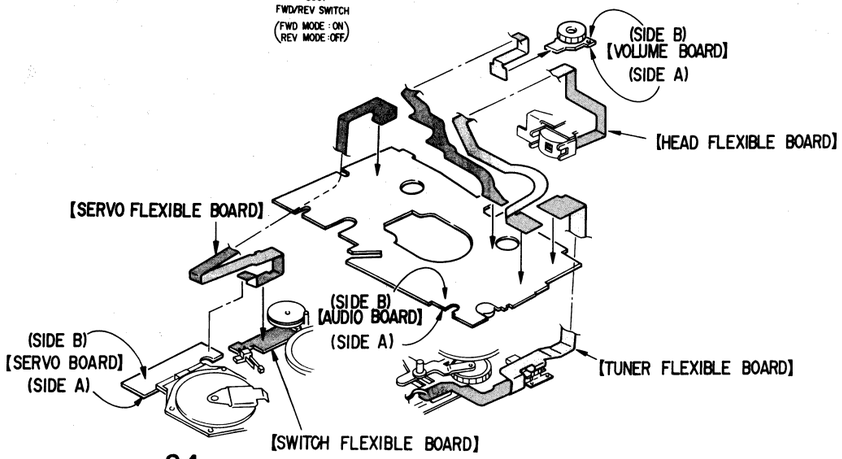



**Servo board**

| Ref. No. | Location No. |
|---|---|
| IC601 | H-4 |
| Q601 | F-3 |
| Q602 | E-4 |
| Q603 | F-3 |
| Q604 | G-3 |

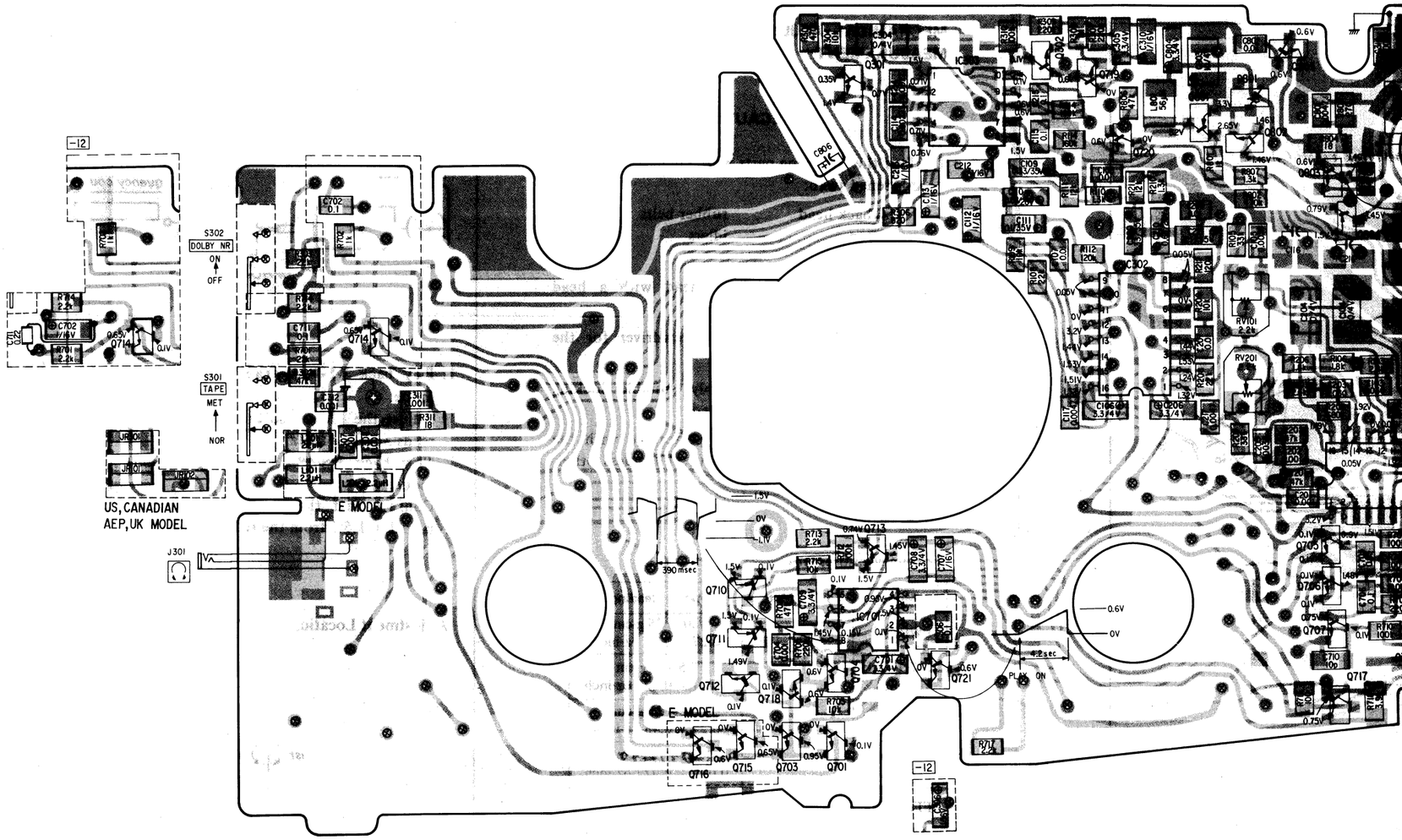
15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32






[AUDIO BOARD (SIDE A)]




- **Semiconductor location on audio board**

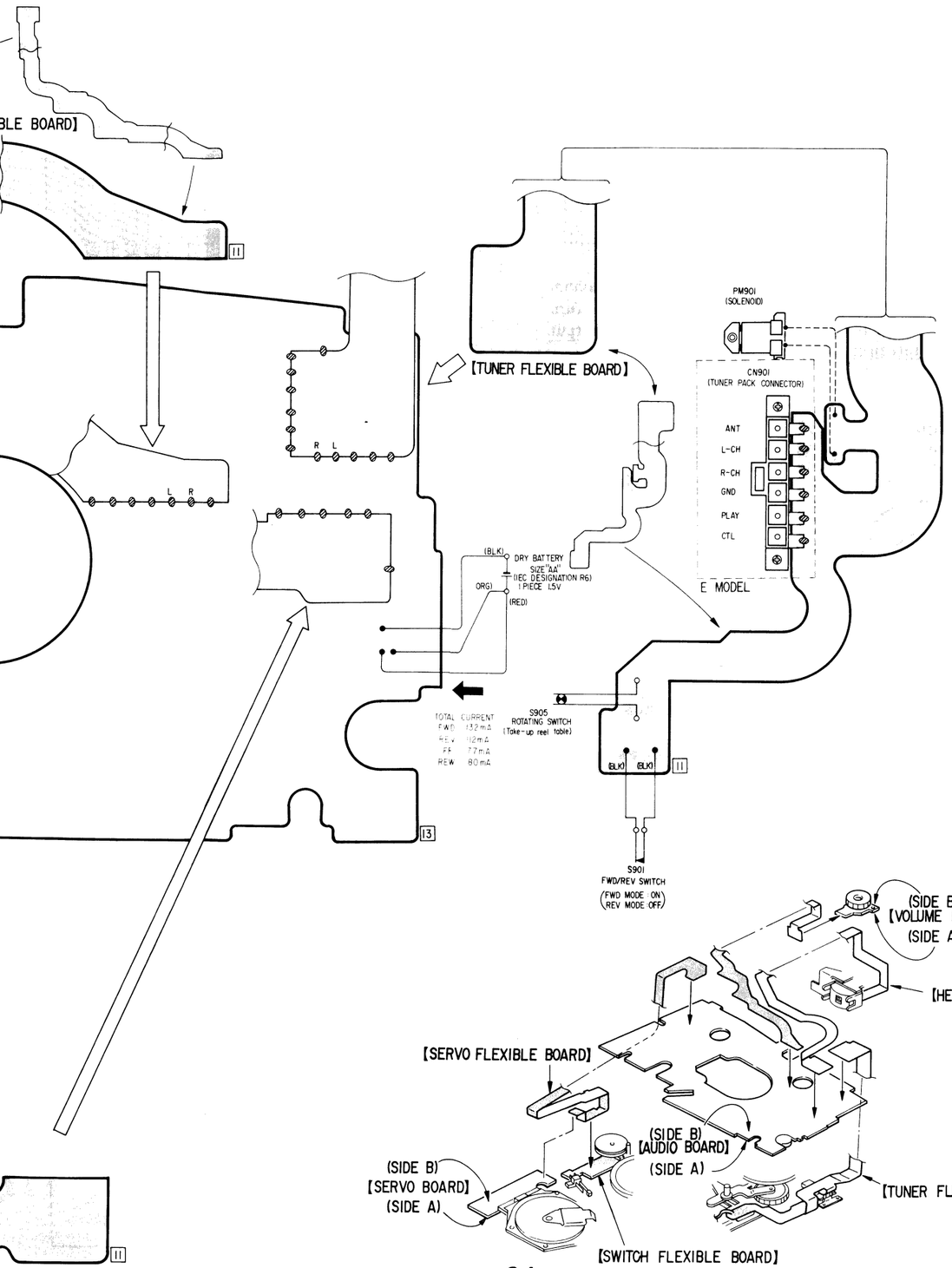
| Ref. No. | Location No. | Ref. No. | Location No. | Ref. No. | Location No. | Ref. No. | Location No. |
|---|---|---|---|---|---|---|---|
| D801 | A-31 | Q701 | G-28 | Q711 | F-27 | Q720 | B-30 |
| | | Q703 | G-28 | Q712 | F-27 | Q721 | F-29 |
| IC301 | E-32 | Q704 | F-28 | Q713 | E-28 | Q801 | B-31 |
| IC302 | C-30 | Q705 | E-32 | Q714 | C-24 | Q802 | B-31 |
| IC303 | A-29 | Q706 | E-32 | Q715 | G-27 | Q803 | B-32 |
| IC701 | F-28 | Q707 | F-32 | Q716 | G-27 | Q804 | C-32 |
| | | Q708 | F-33 | Q717 | F-32 | Q805 | A-32 |
| Q301 | A-28 | Q709 | F-33 | Q718 | F-28 | Suffix-12 | |
| Q302 | A-30 | Q710 | F-26 | Q719 | A-30 | Q714 | C-22 |

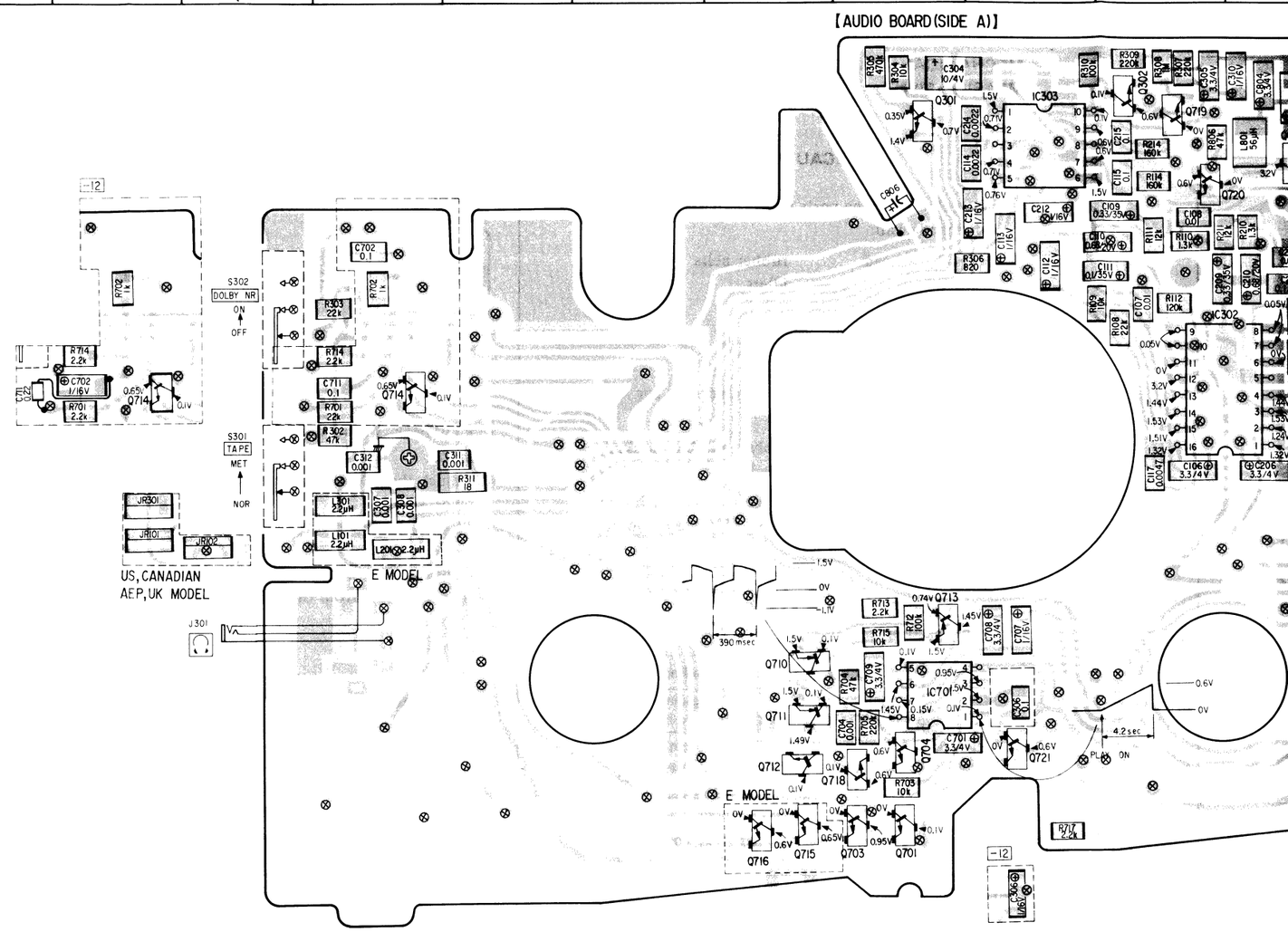
**Note:**

- ○— : parts extracted from the component side.
- ●— : parts extracted from the conductor side.
- ⊗ : Through hole.
- ▒▒ : B + pattern
- ▒▒ : Audio board B side pattern.

WM-10RV/40 WM-10RV

14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30




- **Semiconductor location on audio board**

| Ref. No. | Location No. | Ref. No. | Location No. | Ref. No. | Location No. | Ref. No. | Location No. |
|---|---|---|---|---|---|---|---|
| D801 | A-31 | Q701 | G-28 | Q711 | F-27 | Q720 | B-30 |
| | | Q703 | G-28 | Q712 | F-27 | Q721 | F-29 |
| IC301 | E-32 | Q704 | F-28 | Q713 | E-28 | Q801 | B-31 |
| IC302 | C-30 | Q705 | E-32 | Q714 | C-24 | Q802 | B-31 |
| IC303 | A-29 | Q706 | E-32 | Q715 | G-27 | Q803 | B-32 |
| IC701 | F-28 | Q707 | F-32 | Q716 | G-27 | Q804 | C-32 |
| | | Q708 | F-33 | Q717 | F-32 | Q805 | A-32 |
| Q301 | A-28 | Q709 | F-33 | Q718 | F-28 | Suffix-12 | |
| Q302 | A-30 | Q710 | F-26 | Q719 | A-30 | Q714 | C-22 |

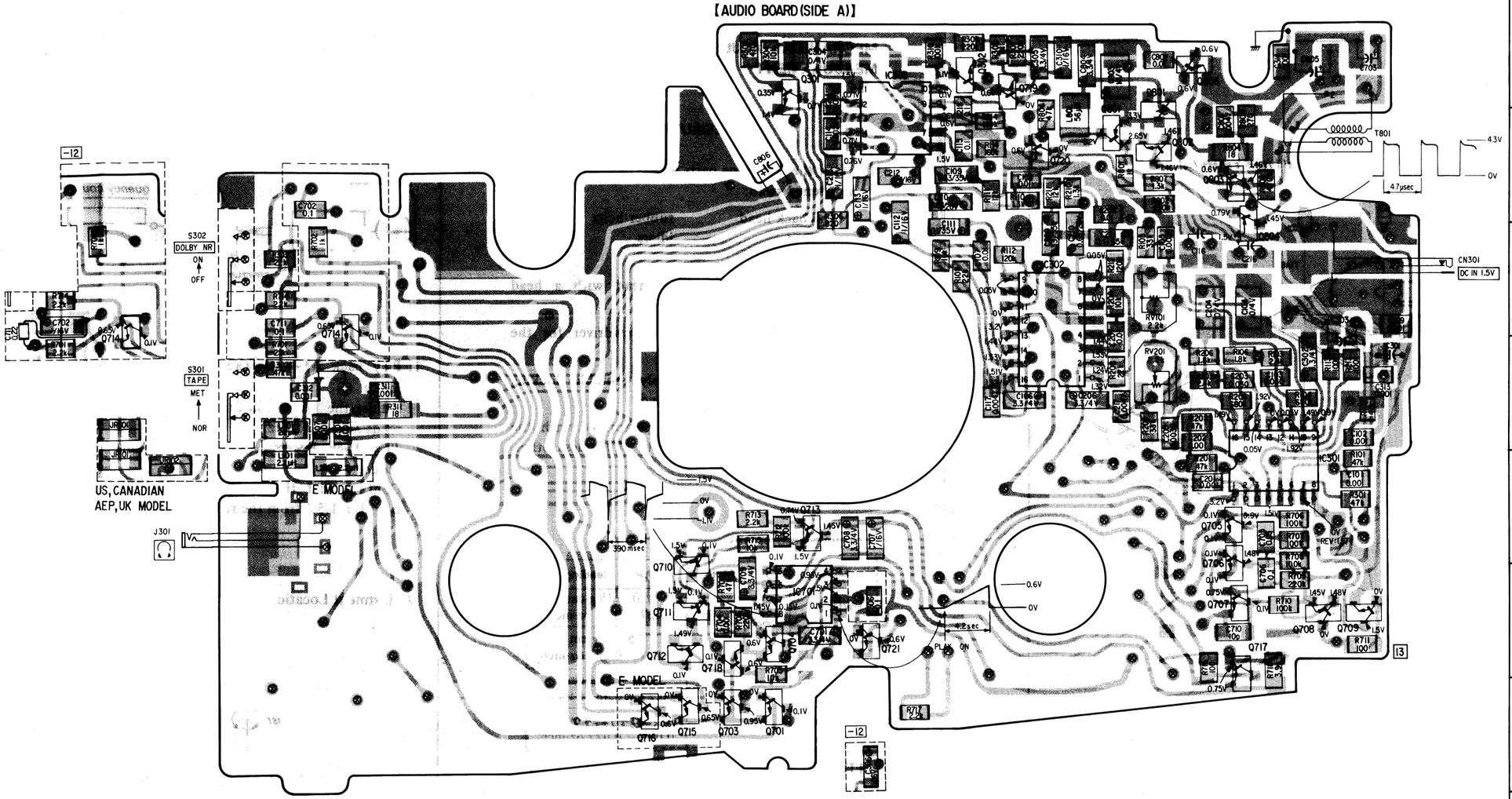
**Note:**

- ○—— : parts extracted fr
- ●—— : parts extracted fr
- ⊗ : Through hole.
- : B + pattern

21 22 23 24 25 26 27 28 29 30 31 32 33 34

A B C D E F G H I J

【AUDIO BOARD (SIDE A)】




【TUNER FLEXIBLE BOARD】

【HEAD FLEXIBLE BOARD】

(SIDE B)
【VOLUME BOARD】
(SIDE A)

● **Semiconductor location on audio board**

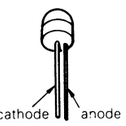
| Ref. No. | Location No. | Ref. No. | Location No. | Ref. No. | Location No. | Ref. No. | Location No. |
|---|---|---|---|---|---|---|---|
| D801 | A-31 | Q701 | G-28 | Q711 | F-27 | Q720 | B-30 |
| | | Q703 | G-28 | Q712 | F-27 | Q721 | F-29 |
| IC301 | E-32 | Q704 | F-28 | Q713 | E-28 | Q801 | B-31 |
| IC302 | C-30 | Q705 | E-32 | Q714 | C-24 | Q802 | B-31 |
| IC303 | A-29 | Q706 | E-32 | Q715 | G-27 | Q803 | B-32 |
| IC701 | F-28 | Q707 | F-32 | Q716 | G-27 | Q804 | C-32 |
| | | Q708 | F-33 | Q717 | F-32 | Q805 | A-32 |
| Q301 | A-28 | Q709 | F-33 | Q718 | F-28 | Suffix-12 | |
| Q302 | A-30 | Q710 | F-26 | Q719 | A-30 | Q714 | C-22 |

**Note:**

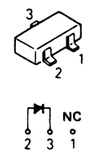
- ○— : parts extracted from the component side.
- ●— : parts extracted from the conductor side.
- ⊗ : Through hole.
- ▒▒ : B + pattern
- ▒▒ : Audio board B side pattern.

● **Semiconductor Lead Layouts**

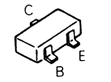
**SLP114B**



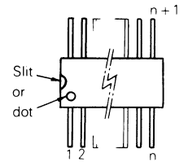

**RD4.3M-B2**



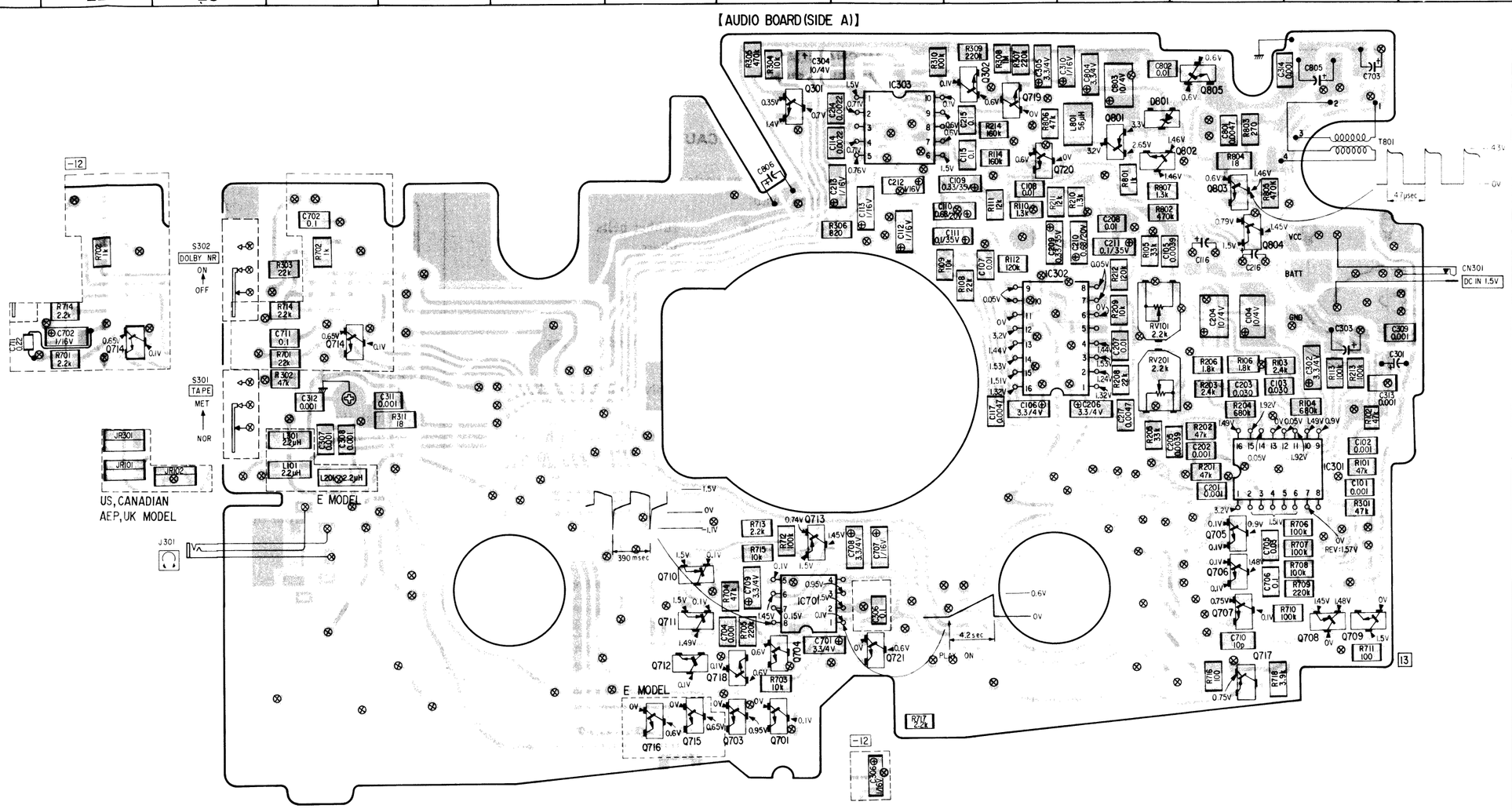

**2SA1162**
**2SB624-BV4**
**2SC2712G**
**2SD596-DV4**
**DTA114YK**
**DTC114YK**
**DTC143TK**




**CX20085**
**CX20089**
**CX20119**
**CX20123**
**TA7739F**



【AUDIO BOARD (SIDE A)】




【VOLUME BOARD】 (SIDE B) (SIDE A)

【HEAD FLEXIBLE BOARD】

【TUNER FLEXIBLE BOARD】

## ● Semiconductor location on audio board

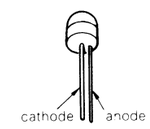
| Ref. No. | Location No. | Ref. No. | Location No. | Ref. No. | Location No. | Ref. No. | Location No. |
|---|---|---|---|---|---|---|---|
| D801 | A-31 | Q701 | G-28 | Q711 | F-27 | Q720 | B-30 |
| | | Q703 | G-28 | Q712 | F-27 | Q721 | F-29 |
| IC301 | E-32 | Q704 | F-28 | Q713 | E-28 | Q801 | B-31 |
| IC302 | C-30 | Q705 | E-32 | Q714 | C-24 | Q802 | B-31 |
| IC303 | A-29 | Q706 | E-32 | Q715 | G-27 | Q803 | B-32 |
| IC701 | F-28 | Q707 | F-32 | Q716 | G-27 | Q804 | C-32 |
| | | Q708 | F-33 | Q717 | F-32 | Q805 | A-32 |
| Q301 | A-28 | Q709 | F-33 | Q718 | F-28 | Suffix-12 | |
| Q302 | A-30 | Q710 | F-26 | Q719 | A-30 | Q714 | C-22 |

**Note:**

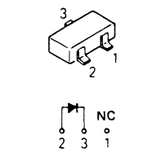
- ○— : parts extracted from the component side.
- ●— : parts extracted from the conductor side.
- ⊗ : Through hole.
- : B + pattern

## ● Semiconductor Lead Layouts

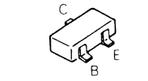
**SLP114B**



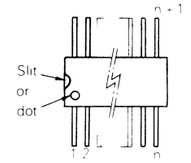

**RD4.3M-B2**




**2SA1162**
**2SB624-BV4**
**2SC2712G**
**2SD596-DV4**
**DTA114YK**
**DTC114YK**
**DTC143TK**




**CX20085**
**CX20089**
**CX20119**
**CX20123**
**TA7739F**



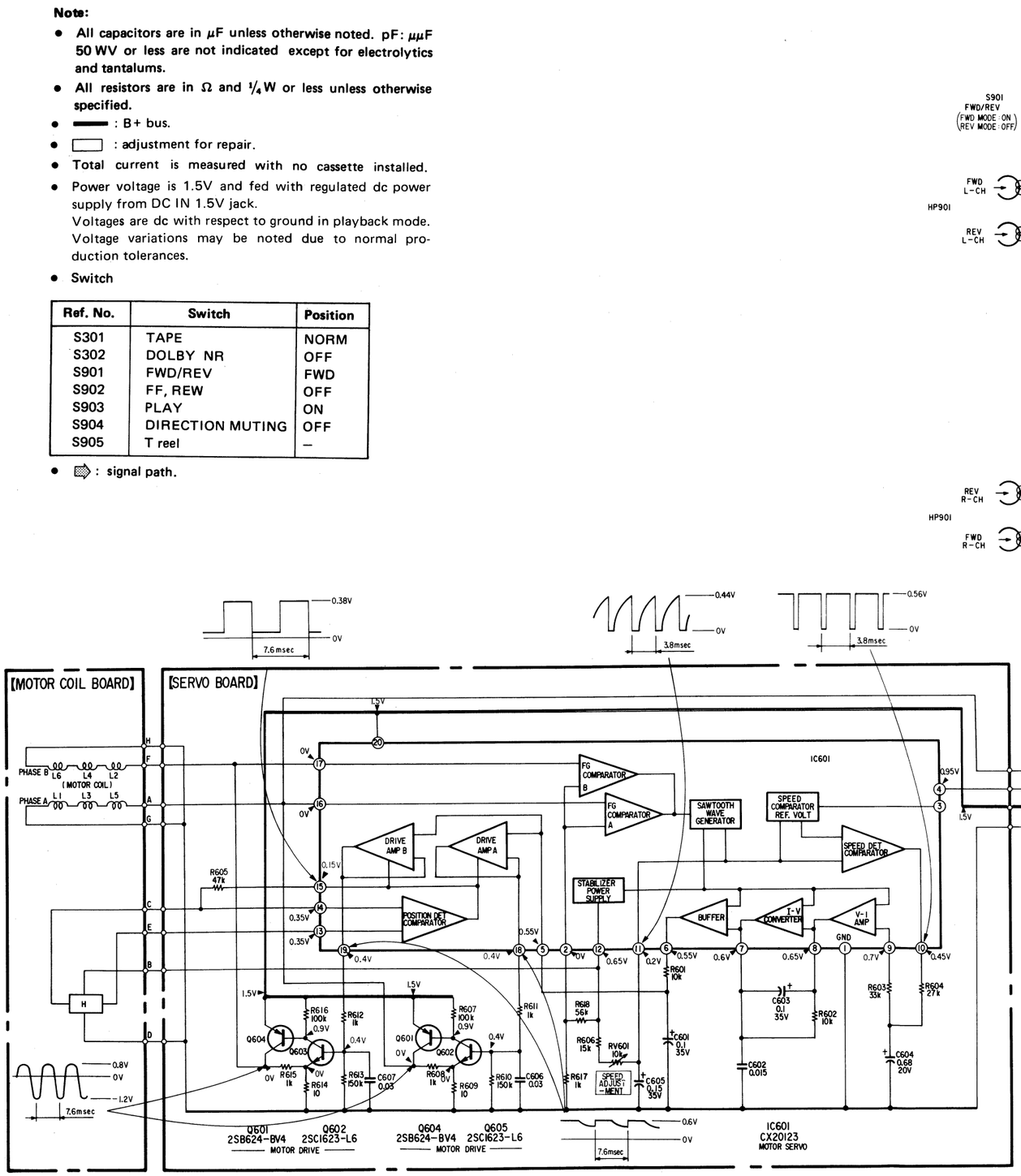
## 5-2. SCHEMATIC DIAGRAM

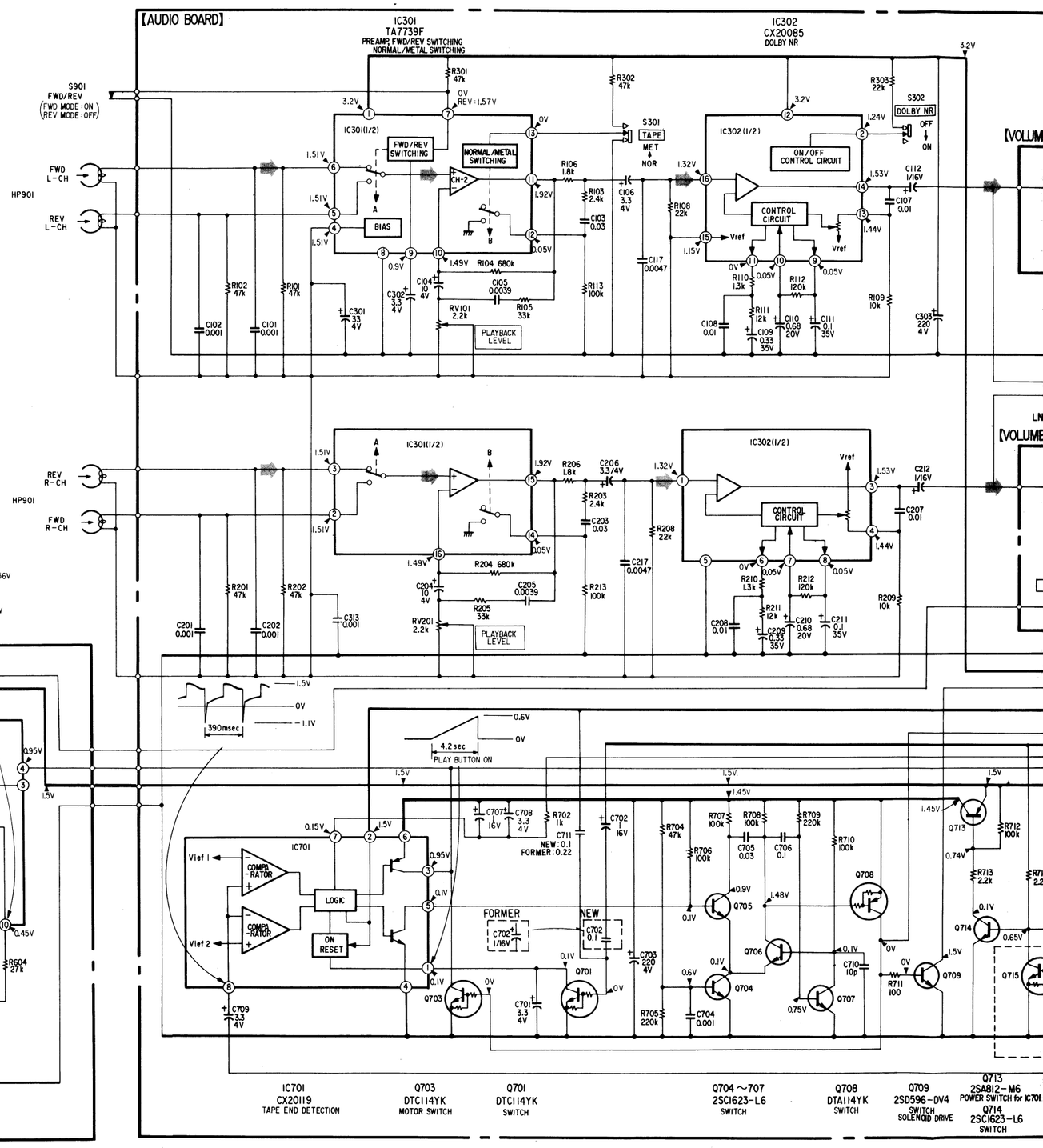
**Note:**

- All capacitors are in μF unless otherwise noted. pF: μμF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- ▬▬ : B+ bus.
- ▭ : adjustment for repair.
- Total current is measured with no cassette installed.
- Power voltage is 1.5V and fed with regulated dc power supply from DC IN 1.5V jack.
  Voltages are dc with respect to ground in playback mode.
  Voltage variations may be noted due to normal production tolerances.
- Switch

| Ref. No. | Switch | Position |
|---|---|---|
| S301 | TAPE | NORM |
| S302 | DOLBY NR | OFF |
| S901 | FWD/REV | FWD |
| S902 | FF, REW | OFF |
| S903 | PLAY | ON |
| S904 | DIRECTION MUTING | OFF |
| S905 | T reel | — |

- ▨ : signal path.



11 12 13 14 15 16 17 18 19 20 21 22 23 24 25

A B C D E F G H I J

IC301 TA7739F PREAMP, FWD/REV SWITCHING NORMAL/METAL SWITCHING

IC302 CX20085 DOLBY NR

Q301 2SC1623-L6 NOISE PREVENTION

IC303 CX20089 POWER AMP

Q302 2SC1623-L6 MUTING

Q719,721 DTC114YK MUTING

[VOLUME BOARD(1/2)]

D401 LN23SRP-H

E MODEL

US, Canadian AEP, UK MODEL

FORMER NEW

CHASSIS GROUND

CN901 (TUNER PACK CONNECTOR)

ANT
L-CH
R-CH
GND
PLAY
CTL

CN301 DC IN 1.5V

TOTAL CURRENT
FWD : 132 mA
REV : 112 mA
FF : 77 mA
REW : 80 mA

DRY BATTERY SIZE "AA" (IEC DESIGNATION R6) 1 piece 1.5V

S903 PLAY SWITCH (PLAY MODE: ON)

S902 FF, REW SWITCH (FF, REW MODE: ON)

S904 DIRECTION SWITCH (When pressing the direction button: ON)

PM901 (SOLENOID)

S905 ROATING SWITCH (Take-up reel table.)

IC701 CX20119 END DETECTION

Q703 DTC114YK MOTOR SWITCH

Q701 DTC114YK SWITCH

Q704 ~ 707 2SC1623-L6 SWITCH

Q708 DTA114YK SWITCH

Q709 2SD596-DV4 SWITCH SOLENOID DRIVE

Q713 2SA812-M6 POWER SWITCH for IC701

Q714 2SC1623-L6 SWITCH

Q715 DTC114YK SWITCH

Q718 2SC1623-L6 SWITCH

Q717 2SA812-M6 LED DRIVE

Q710, 711 DTA114YK SWITCH

Q712 DTC114YK SWITCH

Q801 2SB624-BV4 CONVERTER OUTPUT SWITCH

D801 RD4.3M-B2 VOL REG

Q802 2SC1623-L5 RECT

Q805 2SC1623-L6 VOL REG

Q803 2SD596-DV4 CONVERTER SWITCH

Q804 2SB624-BV4 CONVERTER OUTPUT SWITCH

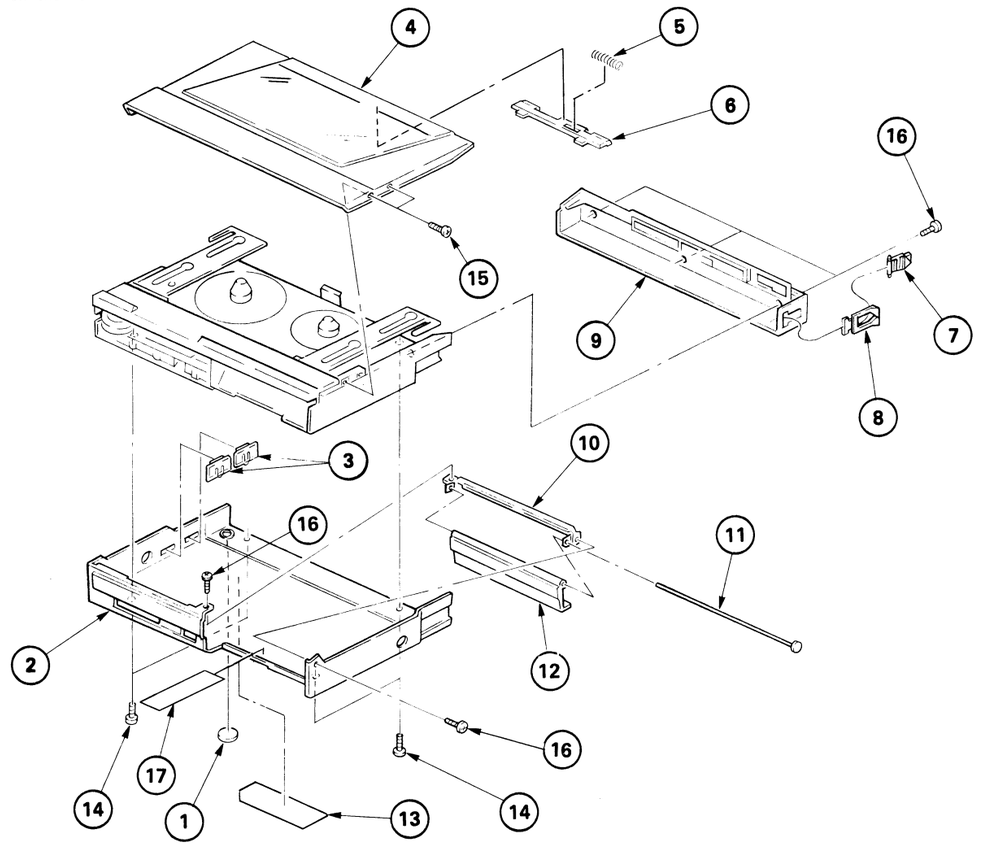
Q716 DTC143TK DC-DC CONVERTER SWITCH

Q720 2SC1623-L6 DC-DC CONVERTER SWITCH

# SECTION 6
# EXPLODED VIEWS

NOTE:
- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked " ★ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The construction parts of an assembled part are indicated with a collation number on the remark column.

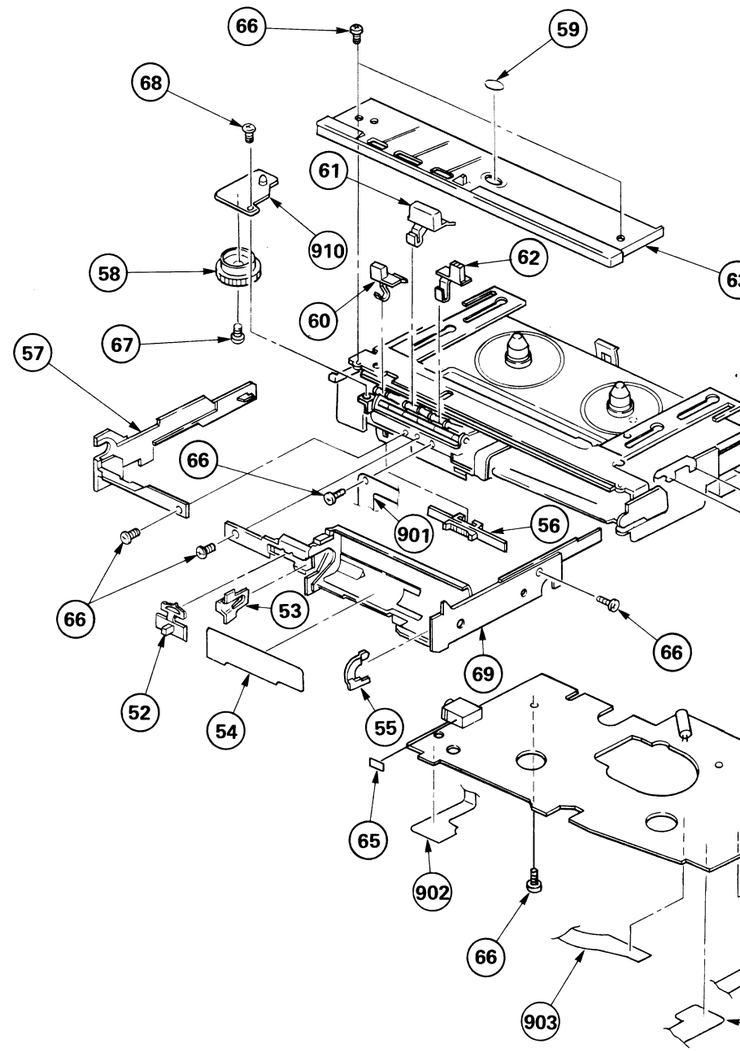
(1)




| No. | Part No. | Description | REMARKS |
|---|---|---|---|
| 1 | 3-315-457-11 | (BLACK).....ORNAMENT, ADJUSTMENT HOLE | |
| | 3-315-457-01 | (SILVER,GOLD)...ORNAMENT, ADJUSTMENT HOLE | |
| 2 | X-3321-201-1 | (AEP,UK,E)....PANEL ASSY (SILVER), CONTROL | |
| | X-3321-248-1 | (AEP,E).....PANEL ASSY (BLACK), CONTROL | |
| | X-3321-251-1 | (US,Canadian)...PANEL ASSY (GOLD), CONTROL | |
| 3 | 3-321-223-01 | KNOB, SLIDE | |
| 4 | X-3321-203-1 | (AEP,UK,E).....PANEL ASSY, (SILVER) CASSETTE | 5,6 |
| | X-3321-260-1 | (AEP,E).....PANEL ASSY, (BLACK) CASSETTE | 5,6 |
| | X-3321-263-1 | (US,Canadian)...PANEL ASSY, (GOLD) CASSETTE | 5,6 |
| 5 | 3-321-204-01 | SPRING, COMPRESSION | |
| 6 | 3-321-229-01 | PLATE, LOCK, CASSETTE LID | |
| 7 | 3-321-216-01 | BUTTON, OPEN | |
| 8 | 3-321-231-01 | ORNAMENT, OPEN BUTTON | |
| 9 | X-3321-204-1 | (AEP,UK,E)..PANEL ASSY, (SILVER) | REAR 7,8 |
| | X-3321-256-1 | (AEP,E).....PANEL ASSY, (BLACK) | REAR 7,8 |
| | X-3321-266-1 | (US,Canadian)...PANEL ASSY (GOLD), | REAR 7,8 |
| 10 | 3-321-211-01 | PLATE,BEARING,BATTERY CASE LID | |
| 11 | 3-321-212-01 | SHAFT, BATTERY CASE LID | |
| 12 | X-3321-202-1 | (AEP,UK,E)...PANEL ASSY, BATTERY CASE LID | (SILVER) |
| | X-3321-252-1 | (AEP,E).....PANEL ASSY, BATTERY CASE LID | |
| | X-3321-255-1 | (US,Canadian)...PANEL ASSY, BATTERY CASE LID | (GOLD) |
| 13 | 3-321-226-01 | (BLACK).....LABEL, MODEL NUMBER | |
| | 3-321-226-11 | (SILVER).....LABEL, MODEL NUMBER | |
| | 3-321-443-11 | (US,Canadian)...LABEL, MODEL NUMBER | |
| 14 | 7-627-551-17 | SCREW, PRECISION +P 1.4X2 | |
| 15 | 7-627-551-47 | SCREW, PRECISION +P 1.4X1.4 | |
| 16 | 7-627-551-07 | SCREW, PRECISION +P 1.4X1.6 | |
| 17 | 9-911-816-01 | CLOTH, BATTERY DRAWING | |

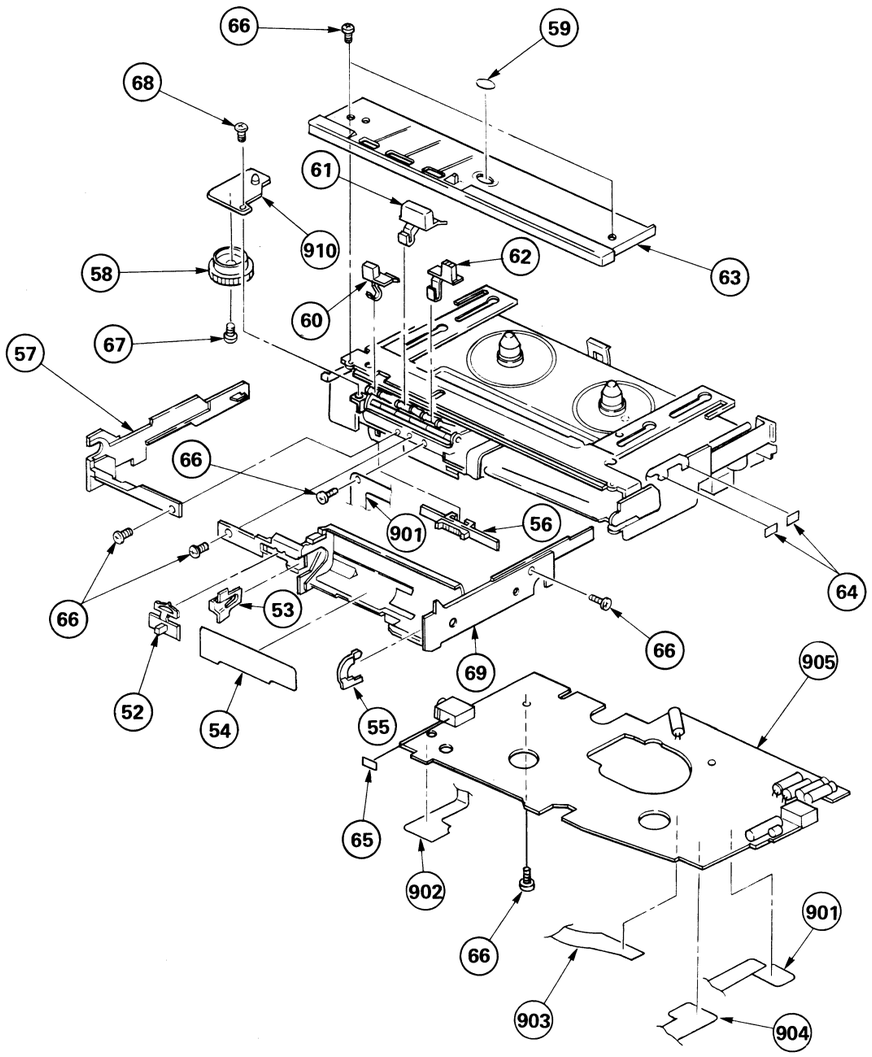


(2)

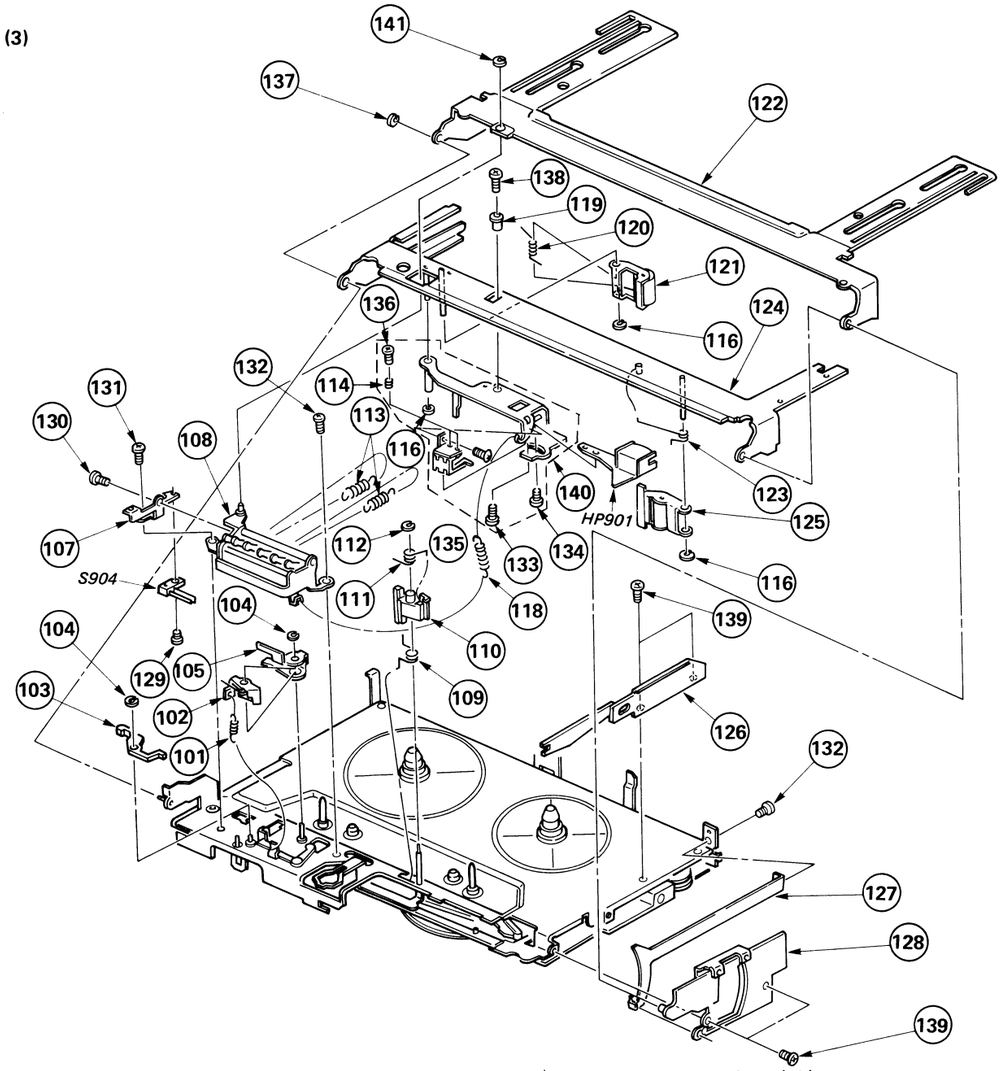



| No. | Part No. | Description | REMARKS |
|---|---|---|---|
| 52 | 3-321-225-01 | KNOB, MODE | |
| 53 | 3-321-411-01 | TERMINAL, PLUS | |
| 54 | 3-321-214-01 | PLATE, INDICATION, POLARITY | |
| 55 | 3-321-213-01 | TERMINAL, MINUS | |
| 56 | 3-321-224-01 | KNOB, FR | |
| 57 | 3-321-470-01 | ORNAMENT (B), REEL | |
| 58 | 3-321-235-01 | KNOB, CONTROL | |
| 59 | 3-321-222-01 | SEAL, ORNAMENT | |
| 60 | 3-321-232-01 | BUTTON, DIR | |
| 61 | 3-321-233-01 | BUTTON, PLAY | |
| 62 | 3-321-234-01 | BUTTON, STOP | |
| 63 | A-3039-005-A | ORNAMENT BLOCK ASSY, HOLDER | |
| 64 | 3-831-441-XX | CUSHION | |
| 65 | 9-911-844-XX | RUB | |
| 66 | 3-703-816-01 | SCR | |
| 67 | 3-703-502-41 | SCR | |
| 68 | 7-627-850-08 | SCR | |
| 69 | 3-321-442-01 | ORN | |
| 901 | 1-613-216-11 | PC | |
| 902 | 1-613-221-11 | PC | |
| 903 | 1-613-219-11 | PC | |
| 904 | 1-613-220-11 | PC | |
| 905 | A-3070-136-A | (US | |
| | A-3070-133-A | (E) | |
| 910 | *1-613-218-11 | PC | |

(2)




(3)



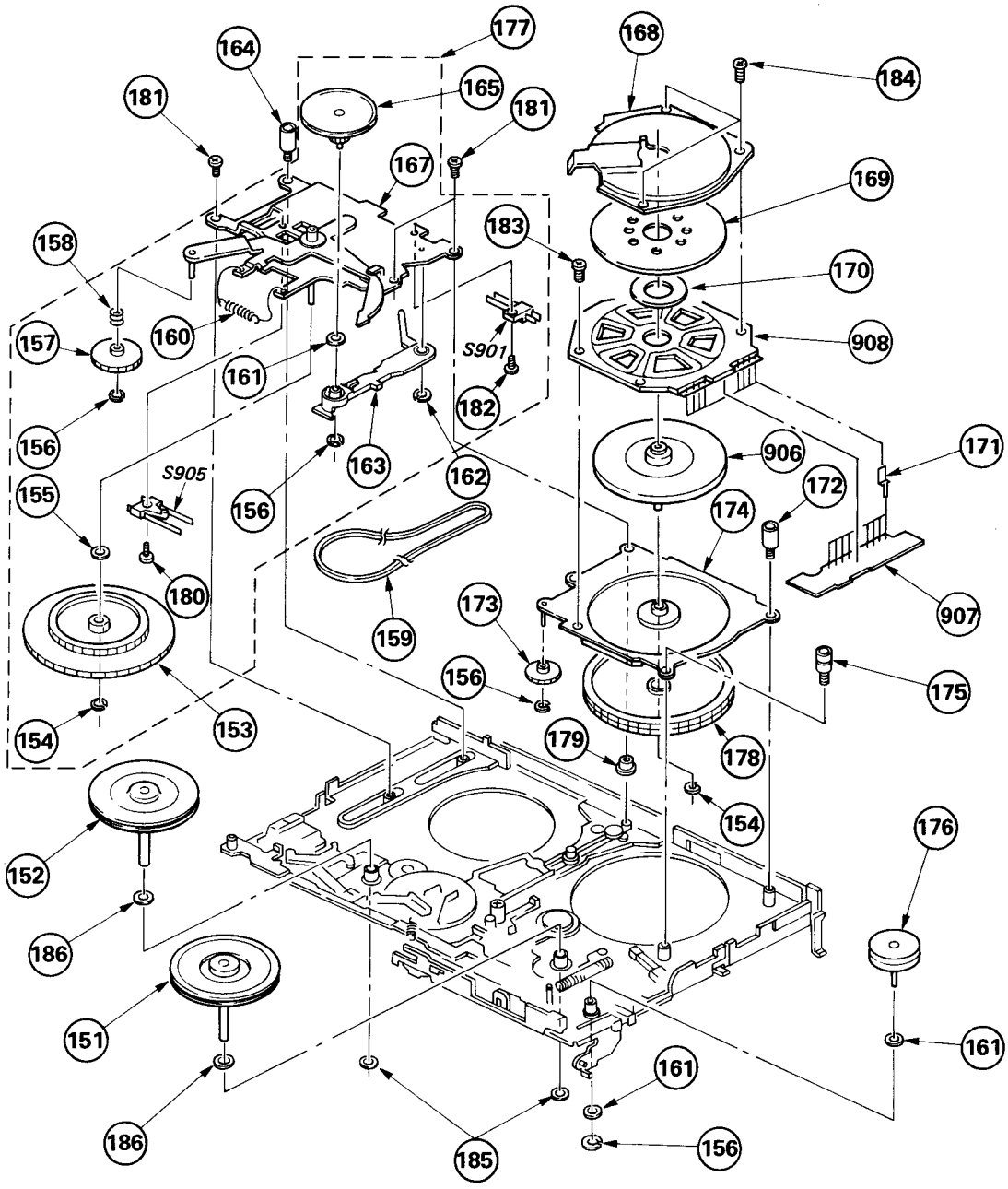

| REMARKS | No. | Part No. | Description | REMARKS |
|---|---|---|---|---|
| VER) REAR 7,8 | 52 | 3-321-225-01 | KNOB, MODE | |
| ACK) REAR 7,8 | 53 | 3-321-411-01 | TERMINAL, PLUS | |
| GOLD), | 54 | 3-321-214-01 | PLATE, INDICATION, POLARITY | |
| REAR 7,8 | 55 | 3-321-213-01 | TERMINAL, MINUS | |
| ID | 56 | 3-321-224-01 | KNOB, FR | |
| | 57 | 3-321-470-01 | ORNAMENT (B), REEL | |
| TERY CASE | 58 | 3-321-235-01 | KNOB, CONTROL | |
| LID (SILVER) | 59 | 3-321-222-01 | SEAL, ORNAMENT | |
| TERY CASE LID | 60 | 3-321-232-01 | BUTTON, DIR | |
| BATTERY | 61 | 3-321-233-01 | BUTTON, PLAY | |
| ASE LID(GOLD) | 62 | 3-321-234-01 | BUTTON, STOP | |
| BER | 63 | A-3039-005-A | ORNAMENT BLOCK ASSY, HOLDER | |
| NUMBER | 64 | 3-831-441-XX | CUSHION | |
| NUMBER | | | | |

| No. | Part No. | Description | REMARKS |
|---|---|---|---|
| 65 | 9-911-844-XX | RUBBER, BRAKE | |
| 66 | 3-703-816-01 | SCREW (M1.4) | |
| 67 | 3-703-502-41 | SCREW | |
| 68 | 7-627-850-08 | SCREW, PRECISION +P 1.4X2 | |
| 69 | 3-321-442-01 | ORNAMENT (A), REEL | |
| 901 | 1-613-216-11 | PC BOARD, HEAD FLEXIBLE | |
| 902 | 1-613-221-11 | PC BOARD, SERVO FLEXIBLE | |
| 903 | 1-613-219-11 | PC BOARD, VOL FLEXIBLE | |
| 904 | 1-613-220-11 | PC BOARD, TUNER FLEXIBLE | |
| 905 | A-3070-136-A | (US, Canadian, AEP, UK)---AUDIO MOUNT ASSY | |
| | A-3070-133-A | (E)---AUDIO MOUNT ASSY | |
| 910 | *1-613-218-11 | PC BOARD, VOL | |

| No. | Part No. | Description | REMARKS |
|---|---|---|---|
| 101 | 3-321-385-01 | SPRING, TENSION | |
| 102 | X-3321-218-1 | LEVER (R) ASSY, JOINT | |
| 103 | 3-321-361-01 | LEVER, D | |
| 104 | 3-570-615-00 | POLY-WASHER (DIA.1.2) | |
| 105 | 3-321-360-01 | ARM, FWD | |
| 107 | *3-321-448-01 | BRACKET, CONTROL | |
| 108 | X-3321-216-1 | BRACKET ASSY, BUTTON | |
| 109 | 3-321-391-01 | SPRING | |
| 110 | 3-321-431-01 | LEVER (N), JOINT | |
| 111 | 3-321-390-01 | SPRING (N) | |
| 112 | 3-321-393-01 | WASHER, STOPPER | |
| 113 | 3-547-668-00 | SPRING, TENSION | |
| 114 | 3-321-473-01 | SPRING, COMPRESSION | |
| 116 | 3-315-384-21 | WASHER, STOPPER | |
| 118 | 3-321-472-01 | SPRING, TENSION | |
| 119 | 3-321-460-01 | SPACER, GUIDE | |
| 120 | 3-321-388-01 | SPRING | |
| 121 | X-3321-217-1 | PINCH LEVER (R) ASSY | |
| 122 | X-3321-241-1 | GUIDE ASSY, SLIDER | |

| No. | Part No. | Description | REMARKS |
|---|---|---|---|
| 123 | 3-321-389-01 | SPRING | |
| 124 | X-3321-244-1 | HOLDER ASSY, CASSETTE | |
| 125 | X-3321-205-1 | PINCH LEVER (N) ASSY | |
| 126 | X-3321-223-1 | BRACKET ASSY, TOGGLE LEVER | |
| 127 | 3-321-397-01 | SLIDER, JOINT | |
| 128 | X-3321-224-1 | BRACKET ASSY, HOLDER | |
| 129 | 7-627-850-08 | SCREW, PRECISION +P 1.4X2 | |
| 130 | 7-627-551-48 | SCREW, PRECISION +P 1.4X1.4 | |
| 131 | 7-627-451-38 | SCREW, PRECISION +K 1.4X2 | |
| 132 | 7-627-451-08 | SCREW, PRECISION +K 1.4X1.6 | |
| 133 | 7-627-451-08 | SCREW, PRECISION +K 1.4X1.6 | |
| 134 | 7-627-551-08 | SCREW, PRECISION +P 1.4X1.6 | |
| 135 | 7-627-551-08 | SCREW, PRECISION +P 1.4X1.6 | |
| 136 | 3-703-816-01 | SCREW (M1.4) | |
| 137 | 7-624-101-04 | STOP RING 1.2 (E TYPE) | |
| 138 | 7-627-551-18 | SCREW, PRECISION +P 1.4X2 | |
| 139 | 7-627-551-08 | SCREW, PRECISION +P 1.4X1.6 | |
| 140 | X-3321-220-3 | HEAD CHASSIS BLOCK ASSY | |
| 141 | 7-624-101-04 | STOP RING 1.2 (E TYPE) | |

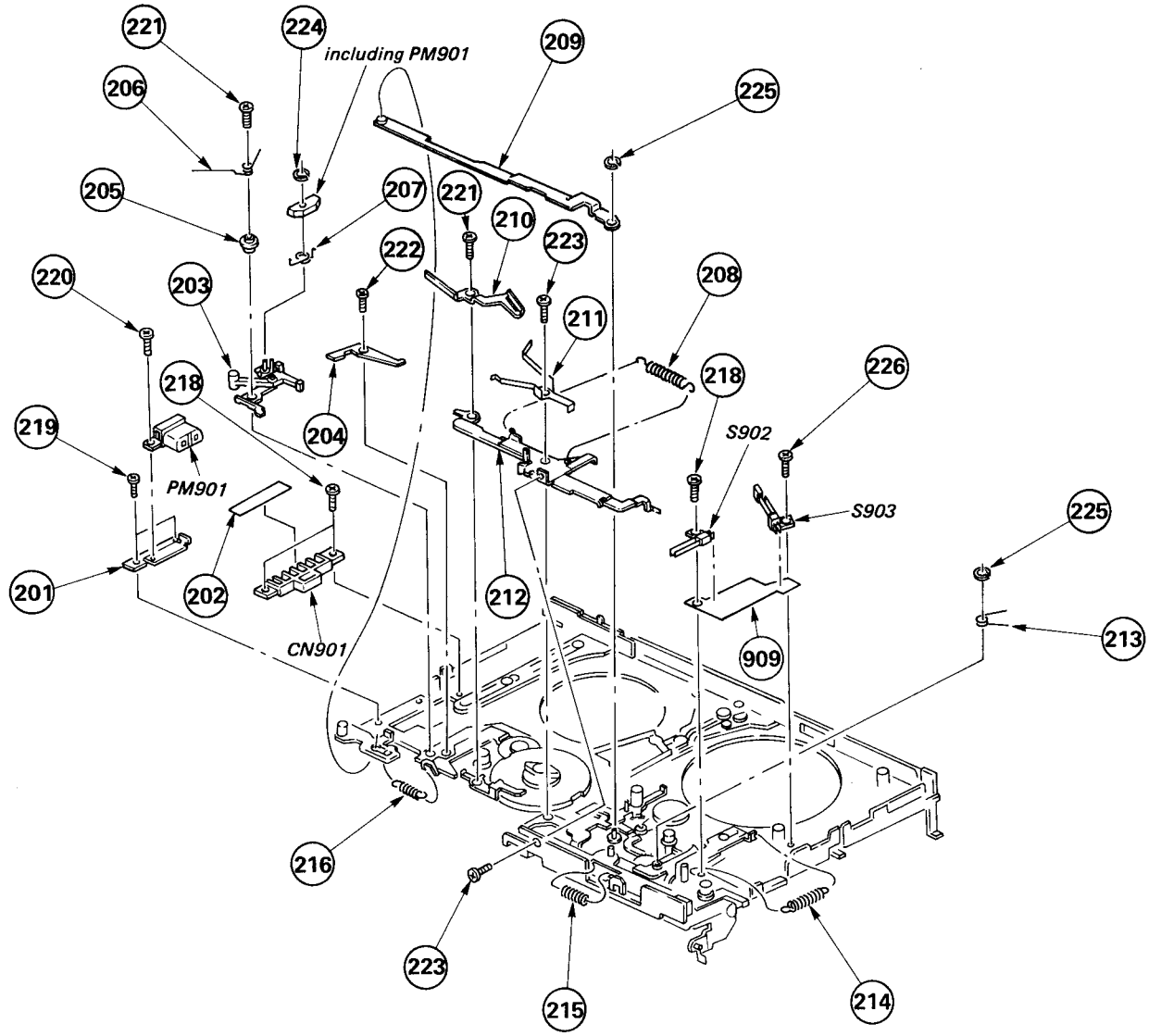
(4)




| No. | Part No. | Description | REMARKS |
|---|---|---|---|
| 151 | X-3321-232-1 | FLYWHEEL (RP) ASSY | |
| 152 | X-3321-231-1 | FLYWHEEL (NP) ASSY | |
| 153 | X-3321-235-1 | TABLE ASSY, REEL, TAKE-UP | |
| 154 | 3-570-615-00 | POLY-WASHER (DIA.1.2) | |
| 155 | 3-701-438-01 | WASHER | |
| 156 | 3-321-393-01 | WASHER, STOPPER | |
| 157 | 3-321-358-01 | GEAR, FF | |
| 158 | 3-321-465-01 | SPRING, COMPRESSION | |
| 159 | 3-321-362-01 | BELT (A) | |
| 160 | 3-310-959-00 | SPRING, TENSION | |
| 161 | 3-321-394-01 | WASHER | |
| 162 | 3-578-224-00 | WASHER | |
| | 3-578-224-11 | WASHER | |
| 163 | X-3321-214-1 | BRACKET ASSY, MIDWAY PULLEY | |
| 164 | 3-321-381-01 | SHAFT (D), FITTING, PANEL | |
| 165 | 3-321-437-01 | PULLEY, MIDWAY | |
| 167 | X-3321-239-1 | CHASSIS ASSY, TAKE-UP REEL | |
| 168 | 3-321-474-01 | PLATE, SHIELD, MOTOR | |
| 169 | 3-321-471-01 | PLATE, HYSTERESIS | |

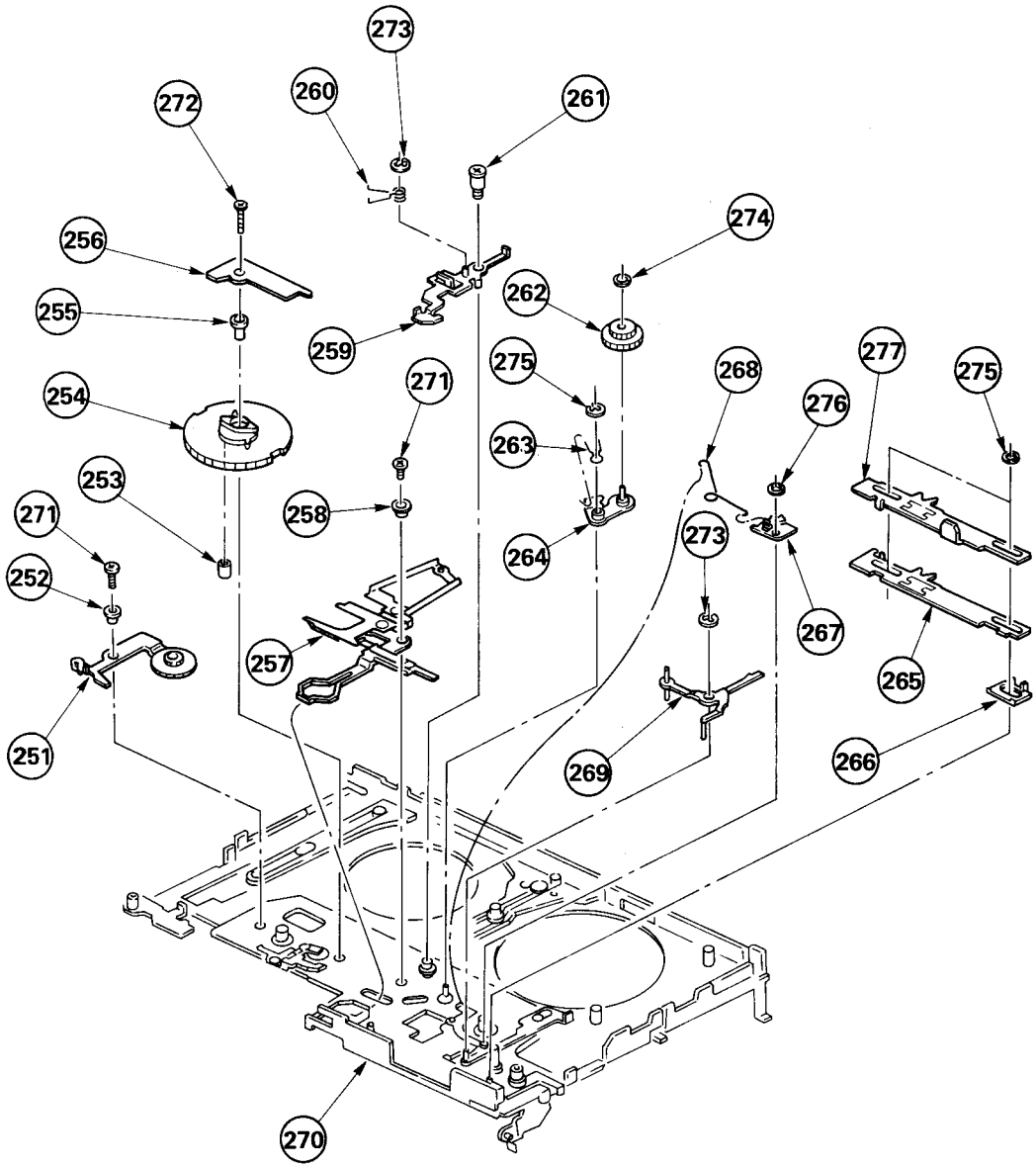
| No. | Part No. | Description | REMARKS |
|---|---|---|---|
| 170 | 3-315-332-01 | SPACER (t=0.05) | |
| | 3-315-332-11 | SPACER (t=0.01) | |
| 171 | 3-315-301-00 | TERMINAL BOARD, MOTOR | |
| 172 | 3-321-380-01 | SHAFT (A), FITTING, PANEL | |
| 173 | 3-321-356-01 | GEAR, MIDWAY | |
| 174 | X-3321-247-1 | SLEEVE ASSY, MOTOR CHASSIS | |
| 175 | 3-321-379-01 | SHAFT (A), PC BOARD | |
| 176 | X-3321-234-1 | WHEEL ASSY, REVERSE | |
| 177 | A-3125-007-A | REEL BLOCK ASSY, TAKE-UP | |
| 178 | X-3321-236-1 | TABLE ASSY, REEL, SUPPLY | |
| 179 | 3-321-375-01 | COLLAR, SLIDE LEVER | |
| 180 | 7-627-850-48 | +P 1.4X1.6 | |
| 181 | 7-627-850-08 | SCREW, PRECISION +P 1.4X2 | |
| 182 | 3-315-485-01 | SCRWE (M1.4X2.3), PRECISION | |
| 183 | 7-627-451-18 | SCREW, PRECISION +K 1.4X2.5 | |
| 184 | 7-627-850-18 | SCREW, PRECISION +P 1.4X2.5 | |
| 185 | 3-321-483-01 | RING, RETAINING (t=0.25) | |
| | 3-321-483-11 | RING, RETAINING (t=0.188) | |
| 186 | 3-321-489-01 | WASHER, POLY | |

(5)




| No. | Part No. | Description | REMARKS |
|---|---|---|---|
| 201 | *3-321-398-01 | BRACKET, SOLENOID | |
| 202 | 3-321-449-01 | SPACER | |
| 203 | X-3321-215-1 | LEVER (B) ASSY, N.R RELEASE | |
| 204 | 3-321-363-01 | LEVER (C), RELEASE, N.R | |
| 205 | 3-321-476-01 | COLLAR, LEVER, NR RELEASE | |
| 206 | 3-321-392-01 | SPRING | |
| 207 | 3-321-464-01 | SPRING | |
| 208 | 3-321-463-01 | SPRING, TENSION | |
| 209 | X-3321-213-1 | LEVER (C) ASSY, SU | |
| 210 | 3-321-359-01 | LEVER, RETURN | |
| 211 | 3-321-364-01 | SPRING | |
| 212 | X-3321-240-1 | LEVER ASSY, SHUT-OFF | |
| 213 | 3-321-386-01 | SPRING | |
| 214 | 3-321-383-01 | SPRING, TENSION | |
| 215 | 3-321-382-01 | SPRING, COMPRESSION | |
| 216 | 3-561-627-00 | SPRING, TENSION | |
| 218 | 3-315-485-01 | SCRWE (M1.4X2.3), PRECISION | |
| 219 | 7-627-850-37 | SCREW, PRECISION +P 1.4X1.4 | |
| 220 | 7-627-551-48 | SCREW, PRECISION +P 1.4X1.4 | |
| 221 | 3-321-376-01 | SCREW, LEVER, SU LOCK | |
| 222 | 3-321-378-01 | SHAFT, RELEASE LEVER (C), N.R | |
| 223 | 7-627-551-08 | SCREW, PRECISION +P 1.4X1.6 | |
| 224 | 3-321-393-01 | WASHER, STOPPER | |
| 225 | 3-570-615-00 | POLY-WASHER (DIA.1.2) | |
| 226 | 7-627-850-18 | SCREW, PRECISION +P 1.4X2.5 | |

(6)




| No. | Part No. | Description | REMARKS |
|---|---|---|---|
| 251 | X-3321-212-1 | LEVER (B) ASSY, SU | |
| 252 | 3-321-372-01 | SPACER, SU LEVER (B) | |
| 253 | 3-321-371-01 | COLLAR, GEAR, SU CAM | |
| 254 | 3-321-428-01 | GEAR, SU CAM | |
| 255 | 3-321-373-01 | SPACER, GEAR, SU CAM | |
| 256 | 3-321-468-01 | PLATE, GUIDE | |
| 257 | X-3321-206-1 | LEVER ASSY, DRIVING | |
| 258 | 3-321-374-01 | SPACER, DRIVING LEVER (A) | |
| 259 | X-3321-219-1 | LEVER (C) ASSY, F.R | |
| 260 | 3-321-384-01 | SPRING | |
| 261 | 3-321-370-01 | SCREW, F.R LEVER (C) | |
| 262 | 3-321-357-01 | GEAR, REW | |
| 263 | 3-321-387-01 | SPRING | |

| No. | Part No. | Description | REMARKS |
|---|---|---|---|
| 264 | X-3321-210-1 | LEVER ASSY, REW | |
| 265 | 3-321-430-01 | LEVER (B), F.R | |
| 266 | 3-321-367-01 | LEVER, SWITCH, F.R | |
| 267 | 3-321-377-01 | GEAR, S.OFF | |
| 268 | 3-321-285-01 | SPRING | |
| 269 | X-3321-211-1 | PLATE ASSY, LOCK | |
| 271 | 7-627-551-18 | SCREW, PRECISION +P 1.4X2 | |
| 272 | 7-627-555-98 | SCREW, PRECISION +P 1.4X4.5 | |
| 273 | 7-624-101-01 | RING, RETAINING E-1.2 | |
| 274 | 3-321-393-01 | WASHER, STOPPER | |
| 275 | 3-570-615-00 | POLY-WASHER (DIA.1.2) | |
| 276 | 3-315-384-21 | WASHER, STOPPER | |
| 277 | 3-321-429-01 | LEVER (A), F.R | |

# SECTION 7
# ELECTRICAL PARTS LIST

NOTE:
- Items marked " ★ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- If there are two or more same circuitsin a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPACITORS:
MF:μF, PF:μμF.

RESISTORS
- All resistors are in ohms.
- F : nonflammable

COILS
- MMH : mH, UH : μH

SEMICONDUCTORS
In each case, U : μ, for example:
UA...: μA..., UPA...: μPA..., UPC...: μPC,
UPD...: μPD...

ELECTRICAL PARTS

| Ref.No. | Part No. | Description | | |
|---|---|---|---|---|
| 901 | 1-613-216-11 | PC BOARD, HEAD FLEXIBLE | | |
| 902 | 1-613-221-11 | PC BOARD, SERVO FLEXIBLE | | |
| 903 | 1-613-219-11 | PC BOARD, VOL FLEXIBLE | | |
| 904 | 1-613-220-11 | PC BOARD, TUNER FLEXIBLE | | |
| 905 | A-3070-136-A | (US,Canadian,AEP,UK)...AUDIO MOUNT ASSY | | |
| 905 | A-3070-133-A | (E).....AUDIO MOUNT ASSY | | |
| 906 | A-3133-203-A | WHEEL BLOCK ASSY, MOTOR | | |
| 907 | A-3065-047-A | MOUNT ASSY, SERVO | | |
| 908 | 1-462-209-00 | COIL, MOTOR (STATOR) | | |
| 909 | 1-613-215-11 | PC BOARD, SWITCH FLEXIBLE | | |
| 910 | *1-613-218-11 | PC BOARD, VOL | | |
| C101 | 1-163-141-00 | CERAMIC CHIP 0.001MF | 10% | 50V |
| C102 | 1-163-141-00 | CERAMIC CHIP 0.001MF | 10% | 50V |
| C103 | 1-163-810-00 | CERAMIC CHIP 0.03MF | 10% | 25V |
| C104 | 1-135-104-00 | TANTAL. CHIP 10MF | 10% | 4V |
| C105 | 1-163-016-00 | CERAMIC CHIP 0.0039MF | 10% | 50V |
| C106 | 1-135-103-00 | TANTAL. CHIP 3.3MF | 20% | 4V |
| C107 | 1-163-021-00 | CERAMIC CHIP 0.01MF | 5% | 50V |
| C108 | 1-163-021-00 | CERAMIC CHIP 0.01MF | 5% | 50V |
| C109 | 1-135-073-00 | TANTAL. CHIP 0.33MF | 10% | 35V |
| C110 | 1-135-087-21 | TANTAL. CHIP 0.68MF | 10% | 20V |
| C111 | 1-135-070-00 | TANTAL. CHIP 0.1MF | 10% | 35V |
| C112 | 1-135-091-00 | TANTAL. CHIP 1MF | 20% | 16V |
| C113 | 1-135-091-00 | TANTAL. CHIP 1MF | 20% | 16V |
| C114 | 1-163-013-00 | CERAMIC CHIP 0.0022MF | 10% | 50V |
| C115 | 1-163-038-00 | CERAMIC CHIP 0.1MF | | 25V |
| C116 | 1-124-413-00 | ELECT 220MF | 20% | 4V |
| C117 | 1-163-017-00 | CERAMIC CHIP 0.0047MF | 10% | 50V |
| C201 | 1-163-141-00 | CERAMIC CHIP 0.001MF | 10% | 50V |
| C202 | 1-163-141-00 | CERAMIC CHIP 0.001MF | 10% | 50V |
| C203 | 1-163-810-00 | CERAMIC CHIP 0.03MF | 10% | 25V |
| C204 | 1-135-104-00 | TANTAL. CHIP 10MF | 10% | 4V |
| C205 | 1-163-016-00 | CERAMIC CHIP 0.0039MF | 10% | 50V |
| C206 | 1-135-103-00 | TANTAL. CHIP 3.3MF | 20% | 4V |
| C207 | 1-163-021-00 | CERAMIC CHIP 0.01MF | 5% | 50V |
| C208 | 1-163-021-00 | CERAMIC CHIP 0.01MF | 5% | 50V |
| C209 | 1-135-073-00 | TANTAL. CHIP 0.33MF | 10% | 35V |
| C210 | 1-135-087-21 | TANTAL. CHIP 0.68MF | 10% | 20V |
| C211 | 1-135-070-00 | TANTAL. CHIP 0.1MF | 10% | 35V |
| C212 | 1-135-091-00 | TANTAL. CHIP 1MF | 20% | 16V |
| C213 | 1-135-091-00 | TANTAL. CHIP 1MF | 20% | 16V |
| C214 | 1-163-013-00 | CERAMIC CHIP 0.0022MF | 10% | 50V |
| C215 | 1-163-038-00 | CERAMIC CHIP 0.1MF | | 25V |
| C216 | 1-124-576-11 | ELECT 220MF | 20% | 4V |

ELECTRICAL PARTS

| Ref.No. | Part No. | Description | | |
|---|---|---|---|---|
| C217 | 1-163-017-00 | CERAMIC CHIP 0.0047MF | 10% | 50V |
| C301 | 1-124-431-00 | ELECT 33MF | 20% | 4V |
| C302 | 1-135-103-00 | TANTAL. CHIP 3.3MF | 20% | 4V |
| C303 | 1-124-576-11 | ELECT 220MF | 20% | 4V |
| C304 | 1-135-104-00 | TANTAL. CHIP 10MF | 10% | 4V |
| C305 | 1-135-103-00 | TANTAL. CHIP 3.3MF | 20% | 4V |
| C306 | 1-135-091-00 | (FORMER)...TANTAL. CHIP 1MF | 20% | 16V |
| C306 | 1-163-038-00 | (NEW).....CERAMIC CHIP 0.1MF | | 25V |
| C307 | 1-163-141-00 | CERAMIC CHIP 0.001MF | 10% | 50V |
| C308 | 1-163-141-00 | CERAMIC CHIP 0.001MF | 10% | 50V |
| C309 | 1-163-141-00 | CERAMIC CHIP 0.001MF | 10% | 50V |
| C310 | 1-135-091-00 | TANTAL. CHIP 1MF | 20% | 16V |
| C311 | 1-163-141-00 | CERAMIC CHIP 0.001MF | 10% | 50V |
| C312 | 1-163-141-00 | CERAMIC CHIP 0.001MF | 10% | 50V |
| C313 | 1-163-141-00 | CERAMIC CHIP 0.001MF | 10% | 50V |
| C314 | 1-163-141-00 | CERAMIC CHIP 0.001MF | 10% | 50V |
| C601 | 1-135-070-00 | CAP, CHIP TANTALUM ELECT 0.1MF | | |
| C602 | 1-163-023-00 | CAP, CHIP CERAMIC 0.015MF B2125 | | |
| C603 | 1-135-070-00 | CAP, CHIP TANTALUM ELECT 0.1MF | | |
| C604 | 1-135-087-21 | CAP, CHIP TANTALUM ELECT 0.68MF | | |
| C605 | 1-135-071-21 | CAP, CHIP TANTALUM ELECT 0.15MF | | |
| C606 | 1-163-810-00 | CAP, CHIP CERAMIC 0.03MF B 2125 | | |
| C607 | 1-163-810-00 | CAP, CHIP CERAMIC 0.03MF B 2125 | | |
| C701 | 1-135-103-00 | TANTAL. CHIP 3.3MF | 20% | 4V |
| C702 | 1-135-091-00 | (FORMER)...TANTAL. CHIP 1MF | 20% | 16V |
| C702 | 1-163-038-00 | (NEW).....CERAMIC CHIP 0.1MF | | 25V |
| C703 | 1-124-576-11 | ELECT 220MF | 20% | 4V |
| C704 | 1-163-141-00 | CERAMIC CHIP 0.001MF | 10% | 50V |
| C705 | 1-163-810-00 | CERAMIC CHIP 0.03MF | 10% | 25V |
| C706 | 1-163-038-00 | CERAMIC CHIP 0.1MF | | 25V |
| C707 | 1-135-091-00 | TANTAL. CHIP 1MF | 20% | 16V |
| C708 | 1-135-103-00 | TANTAL. CHIP 3.3MF | 20% | 4V |
| C709 | 1-135-103-00 | TANTAL. CHIP 3.3MF | 20% | 4V |
| C710 | 1-163-703-91 | CERAMIC CHIP 10PF | 5% | 50V |
| C711 | 1-163-081-00 | (FORMER)...CERAMIC CHIP 0.22MF | | 25V |
| C711 | 1-163-038-00 | (NEW).....CERAMIC CHIP 0.1MF | | 25V |
| C801 | 1-163-017-00 | CERAMIC CHIP 0.0047MF | 10% | 50V |
| C802 | 1-163-021-00 | CERAMIC CHIP 0.01MF | 5% | 50V |
| C803 | 1-135-104-00 | TANTAL. CHIP 10MF | 10% | 4V |
| C804 | 1-135-103-00 | TANTAL. CHIP 3.3MF | 20% | 4V |
| C805 | 1-124-576-11 | ELECT 220MF | 20% | 4V |
| C806 | 1-124-413-00 | ELECT 220MF | 20% | 4V |
| CN301 | 1-507-955-11 | JACK, EXTERNAL POWER (DC IN 1.5V) | | |
| CN901 | 1-536-861-21 | TERMINAL BOARD (B) | | |

ELECTRICAL PARTS

| Ref.No. | Part No. | Description |
|---|---|---|
| D401 | 8-719-911-14 | DIODE SLP114B |
| D801 | 8-719-105-64 | DIODE RD4.3M-B2 |
| HP901 | 8-825-537-40 | HEAD (PP-238-3604C) |
| IC301 | 8-759-203-85 | IC TA7739F |
| IC302 | 8-759-908-08 | IC CX20085 |
| IC303 | 8-759-600-67 | IC CX20089 |
| IC601 | 8-752-012-32 | IC CX20123 |
| IC701 | 8-759-910-54 | IC CX20119 |
| J301 | 1-507-895-00 | JACK, HEADPHONE (WITH SW) |
| L101 | 1-410-123-21 | (E)...INDUCTOR CHIP 2.2UH |
| L201 | 1-410-123-21 | (E)...INDUCTOR CHIP 2.2UH |
| L301 | 1-410-123-21 | (E)...INDUCTOR CHIP 2.2UH |
| L801 | 1-408-946-00 | INDUCTOR CHIP 56UH |
| PM901 | 1-454-375-11 | SOLENOID, PLUNGER |
| Q301 | 8-729-271-22 | TRANSISTOR 2SC2712G |
| Q302 | 8-729-271-22 | TRANSISTOR 2SC2712G |
| Q601 | 8-729-162-44 | TRANSISTOR 2SB624-BV4 |
| Q602 | 8-729-271-22 | TRANSISTOR 2SC2712G |
| Q603 | 8-729-271-22 | TRANSISTOR 2SC2712G |
| Q604 | 8-729-162-44 | TRANSISTOR 2SB624-BV4 |
| Q701 | 8-729-900-52 | TRANSISTOR DTC114YK |
| Q703 | 8-729-900-52 | TRANSISTOR DTC114YK |
| Q704 | 8-729-271-22 | TRANSISTOR 2SC2712G |
| Q705 | 8-729-271-22 | TRANSISTOR 2SC2712G |
| Q706 | 8-729-271-22 | TRANSISTOR 2SC2712G |
| Q707 | 8-729-271-22 | TRANSISTOR 2SC2712G |
| Q708 | 8-729-901-46 | TRANSISTOR DTA114YK |
| Q709 | 8-729-159-64 | TRANSISTOR 2SD596D-V4 |
| Q710 | 8-729-901-46 | TRANSISTOR DTA114YK |
| Q711 | 8-729-901-46 | TRANSISTOR DTA114YK |
| Q712 | 8-729-900-52 | TRANSISTOR DTC114YK |
| Q713 | 8-729-216-22 | TRANSISTOR 2SA1162 |
| Q714 | 8-729-271-22 | TRANSISTOR 2SC2712G |
| Q715 | 8-729-900-52 | (E)...TRANSISTOR DTC114YK |
| Q716 | 8-729-900-98 | (E)...TRANSISTOR DTC143TK |
| Q717 | 8-729-216-22 | TRANSISTOR 2SA1162 |
| Q718 | 8-729-271-22 | TRANSISTOR 2SC2712G |
| Q719 | 8-729-900-52 | TRANSISTOR DTC114YK |
| Q720 | 8-729-271-22 | TRANSISTOR 2SC2712G |
| Q721 | 8-729-900-52 | TRANSISTOR DTC114YK |
| Q801 | 8-729-162-44 | TRANSISTOR 2SB624-BV4 |
| Q802 | 8-729-271-22 | TRANSISTOR 2SC2712G |
| Q803 | 8-729-159-64 | TRANSISTOR 2SD596-DV4 |
| Q804 | 8-729-162-44 | TRANSISTOR 2SB624-BV4 |
| Q805 | 8-729-271-22 | TRANSISTOR 2SC2712G |

ELECTRICAL PARTS

| Ref.No. | Part No. | Description | | | |
|---|---|---|---|---|---|
| R101 | 1-216-089-00 | METAL CHIP | 47K | 5% | 1/10W |
| R102 | 1-216-089-00 | METAL CHIP | 47K | 5% | 1/10W |
| R103 | 1-216-058-00 | METAL CHIP | 2.4K | 5% | 1/10W |
| R104 | 1-216-117-00 | METAL CHIP | 680K | 5% | 1/10W |
| R105 | 1-216-085-00 | METAL CHIP | 33K | 5% | 1/10W |
| R106 | 1-216-055-00 | METAL CHIP | 1.8K | 5% | 1/10W |
| R108 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W |
| R109 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R110 | 1-216-052-00 | METAL CHIP | 1.3K | 5% | 1/10W |
| R111 | 1-216-075-00 | METAL CHIP | 12K | 5% | 1/10W |
| R112 | 1-216-099-00 | METAL CHIP | 120K | 5% | 1/10W |
| R113 | 1-216-097-00 | METAL CHIP | 100K | 5% | 1/10W |
| R114 | 1-216-102-00 | METAL CHIP | 160K | 5% | 1/10W |
| R201 | 1-216-089-00 | METAL CHIP | 47K | 5% | 1/10W |
| R202 | 1-216-089-00 | METAL CHIP | 47K | 5% | 1/10W |
| R203 | 1-216-058-00 | METAL CHIP | 2.4K | 5% | 1/10W |
| R204 | 1-216-117-00 | METAL CHIP | 680K | 5% | 1/10W |
| R205 | 1-216-085-00 | METAL CHIP | 33K | 5% | 1/10W |
| R206 | 1-216-055-00 | METAL CHIP | 1.8K | 5% | 1/10W |
| R208 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W |
| R209 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R210 | 1-216-052-00 | METAL CHIP | 1.3K | 5% | 1/10W |
| R211 | 1-216-075-00 | METAL CHIP | 12K | 5% | 1/10W |
| R212 | 1-216-099-00 | METAL CHIP | 120K | 5% | 1/10W |
| R213 | 1-216-097-00 | METAL CHIP | 100K | 5% | 1/10W |
| R214 | 1-216-102-00 | METAL CHIP | 160K | 5% | 1/10W |
| R301 | 1-216-089-00 | METAL CHIP | 47K | 5% | 1/10W |
| R302 | 1-216-089-00 | METAL CHIP | 47K | 5% | 1/10W |
| R303 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W |
| R304 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R305 | 1-216-113-00 | METAL CHIP | 470K | 5% | 1/10W |
| R306 | 1-216-047-00 | METAL CHIP | 820 | 5% | 1/10W |
| R307 | 1-216-105-00 | METAL CHIP | 220K | 5% | 1/10W |
| R308 | 1-216-121-00 | METAL CHIP | 1M | 5% | 1/10W |
| R309 | 1-216-105-00 | METAL CHIP | 220K | 5% | 1/10W |
| R310 | 1-216-097-00 | METAL CHIP | 100K | 5% | 1/10W |
| R311 | 1-216-007-00 | METAL CHIP | 18 | 5% | 1/10W |
| R601 | 1-216-073-00 | RES, CHIP | 10K | 5% | 1/10W |
| R602 | 1-216-073-00 | RES, CHIP | 10K | 5% | 1/10W |
| R603 | 1-216-085-00 | RES, CHIP | 33K | 5% | 1/10W |
| R604 | 1-216-083-00 | RES, CHIP | 27K | 5% | 1/10W |
| R605 | 1-216-089-00 | RES, CHIP | 47K | 5% | 1/10W |
| R606 | 1-216-077-00 | RES, CHIP | 15K | 5% | 1/10W |
| R607 | 1-216-097-00 | RES, CHIP | 100K | 5% | 1/10W |
| R608 | 1-216-049-00 | RES, CHIP | 1.0K | 5% | 1/10W |

ELECTRICAL PARTS

| Ref.No. | Part No. | Description | | | |
|---|---|---|---|---|---|
| R609 | 1-216-001-00 | RES, CHIP | 10 | 5% | 1/10W |
| R610 | 1-216-101-00 | RES, CHIP | 150K | 5% | 1/10W |
| R611 | 1-216-049-00 | RES, CHIP | 1.0K | 5% | 1/10W |
| R612 | 1-216-049-00 | RES, CHIP | 1.0K | 5% | 1/10W |
| R613 | 1-216-101-00 | RES, CHIP | 150K | 5% | 1/10W |
| R614 | 1-216-001-00 | RES, CHIP | 10 | 5% | 1/10W |
| R615 | 1-216-049-00 | RES, CHIP | 1.0K | 5% | 1/10W |
| R616 | 1-216-097-00 | RES, CHIP | 100K | 5% | 1/10W |
| R617 | 1-216-049-00 | RES, CHIP | 1.0K | 5% | 1/10W |
| R618 | 1-216-091-00 | RES, CHIP | 56K | 5% | 1/10W |
| R701 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W |
| R702 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R703 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R704 | 1-216-089-00 | METAL CHIP | 47K | 5% | 1/10W |
| R705 | 1-216-105-00 | METAL CHIP | 220K | 5% | 1/10W |
| R706 | 1-216-097-00 | METAL CHIP | 100K | 5% | 1/10W |
| R707 | 1-216-097-00 | METAL CHIP | 100K | 5% | 1/10W |
| R708 | 1-216-097-00 | METAL CHIP | 100K | 5% | 1/10W |
| R709 | 1-216-105-00 | METAL CHIP | 220K | 5% | 1/10W |
| R710 | 1-216-097-00 | METAL CHIP | 100K | 5% | 1/10W |
| R711 | 1-216-025-00 | METAL CHIP | 100 | 5% | 1/10W |
| R712 | 1-216-097-00 | METAL CHIP | 100K | 5% | 1/10W |
| R713 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R714 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R715 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R716 | 1-216-025-00 | METAL CHIP | 100 | 5% | 1/10W |
| R717 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R718 | 1-216-063-00 | METAL CHIP | 3.9K | 5% | 1/10W |
| R801 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R802 | 1-216-113-00 | METAL CHIP | 470K | 5% | 1/10W |
| R803 | 1-216-035-00 | METAL CHIP | 270 | 5% | 1/10W |
| R804 | 1-216-007-00 | METAL CHIP | 18 | 5% | 1/10W |
| R805 | 1-216-113-00 | METAL CHIP | 470K | 5% | 1/10W |
| R806 | 1-216-089-00 | METAL CHIP | 47K | 5% | 1/10W |
| R807 | 1-216-052-00 | METAL CHIP | 1.3K | 5% | 1/10W |
| RV101 | 1-230-224-00 | RES, ADJ, METAL GLAZE 2.2K | | | |
| RV201 | 1-230-224-00 | RES, ADJ, METAL GLAZE 2.2K | | | |
| RV401 | 1-230-485-11 | RES, VAR, CARBON 10K/10K (VOLUME) | | | |
| RV601 | 1-230-478-11 | RES, ADJ, METAL GLAZE 10K | | | |
| S301 | 1-554-669-00 | SWITCH, SLIDE (NORMAL/METAL) | | | |
| S302 | 1-554-669-00 | SWITCH, SLIDE (DOLBY) | | | |
| S901 | 1-554-938-11 | SWITCH, LEAF (FWD/REV) | | | |
| S902 | 1-554-938-11 | SWITCH, LEAF (FF/REW) | | | |
| S903 | 1-553-226-00 | SWITCH, LEAF (PLAY) | | | |
| S904 | 1-554-938-11 | SWITCH, LEAF (DIRECTION MUTING) | | | |
| S905 | 3-321-395-01 | CONTACT, OUTSERT (T REEL TABLE) | | | |
| T801 | 1-447-666-00 | TRANSFORMER, DC-DC CONVERTER | | | |

ACCESSORY & PACKING MATERIAL

| Part No. | Description |
|---|---|
| 1-528-052-00 | BATTERY, ALKALINE MANGANIN (AM3) |
| 3-320-443-01 | BAG, PROTECTION |
| 3-321-451-01 | CUSHION (A) |
| 3-321-453-01 | SHEET, PROTECTION |
| 3-321-454-01 | (US,Canadian)...INDIVIDUAL CARTON |
| 3-321-481-01 | (AEP,UK,E).....INDIVIDUAL CARTON |
| 3-321-459-01 | CASE, CARRYING |
| 3-321-486-01 | STICKER, CONTROL |
| 3-323-103-01 | CUSHION (B) |
| 3-323-131-01 | LABEL, CAUTION, BATTERY |
| 3-527-213-00 | LABEL, SERIAL NUMBER |
| 3-701-622-00 | BAG, POLYETHYLENE |
| 3-703-880-01 | (BLACK)....LABEL, COLOR |
| 3-703-891-01 | (SILBER)...LABEL, COLOR |
| 3-703-912-01 | (GOLD).....LABEL, COLOR |
| 3-773-976-11 | (AEP,UK).....MANUAL, INSTRUCTION |
| 3-773-976-21 | (US,Canadian)...MANUAL, INSTRUCTION |
| 3-773-976-31 | (Canadian).....MANUAL, INSTRUCTION |
| 3-773-976-41 | (E).....MANUAL, INSTRUCTION |
| 3-773-977-01 | (AEP,UK,E).....MANUAL, INSTRUCTION |
| 3-795-748-21 | SAFETY INSTRUCTIONS, HEADPHONE |
| 8-951-187-91 | MDR-W30L(B) SET |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